Annual Report 1981-1982

Alberta
TRANSPORTATION

ISSN 0702-7702

Alberta

TRANSPORTATION

Office of the Minister

423 Legislature Building, Edmonton, Alberta, Canada T5K 2B6 403/427-2080

March 1, 1983

To His Honour
Frank Lynch-Staunton
Lieutenant-Governor
Province of Alberta

Sir:

I have the honour to submit to you the Annual Report of Alberta Transportation for the fiscal year ended March 31, 1982. This report outlines the department's programs and accomplishments during a year in which it faced one of the largest construction programs ever. The department continues to represent the high priority your government places on the efficient movement of people, goods and services in the social and economic development of Alberta.

Respectfully submitted,

MARVIN E. MOORE
Minister of Transportation

Alberta

TRANSPORTATION

403/427-2081

310 Transportation Building
9630 - 106 Street
Edmonton, Alberta, Canada
T5K 2B8

Office of
the Deputy Minister

January 10, 1983

The Honourable
Marvin E. Moore
Minister of Transportation

Sir:

I have the honour to present to you the Annual Report for Alberta Transportation for the fiscal year ending March 31, 1982.

The reporting period covers one of the largest highway construction and engineering programs the department has ever delivered. In addition, a significant contribution has been made to urban transportation throughout Alberta. The Motor Transport Board continues to encourage a stable trucking industry serving our province while traffic safety receives a high priority.

The co-operation of municipalities and the private sector, combined with the dedication of management and staff, has allowed the department to meet its mandate.

Respectfully submitted,

HARVEY M. ALTON
Deputy Minister

CONTENTS

Administration Division 1
- Computer Services Branch 2
- Equipment, Supply and Services Branch 3
- Finance and Administrative Services Branch 10
- Personnel Branch 12

Engineering Division 13
- Bridge and Structural Engineering Branch 14
- Contracts Engineering Branch 16
- Materials Engineering Branch 18
- Design Engineering Branch 19
- Operational Design Branch 21
- Research and Development Branch 22
- Transportation Safety Branch 23

Regional Transportation Division 25
- Program Management Branch 27
- Operations Branch 31
- Property Services Branch 34
- Occupational Health and Safety Branch 35
- Southern Region No. 1 36
- South Central Region No. 2 36
- Central Region No. 3 36
- North East Region No. 4 37
- North West Region No. 5 38
- Peace Region No. 6 38

Program Planning Division 49
- Program Development Branch 50
- Urban Transportation 51
- Systems Planning Branch 53

Alberta Motor Transport Board 55
- Motor Transport Branch 56
- Operating Authorities Branch 59
- Administration, Research, and Certificate Review Branch 61

ADMINISTRATION DIVISION

ADMINISTRATION DIVISION

D.A. McGEACHY
Assistant Deputy Minister

The primary role of the Administration Division is to provide general administrative support functions for the department. This role is accomplished through four branches: Computer Services; Equipment, Supply and Services; Finance and Administrative Services; and Personnel.

These various support functions are accomplished through a close working relationship with such central departments and agencies of the provincial government as Treasury, Personnel Administration, Government Services, and Housing and Public Works.

During the 1981-82 fiscal year, the department received substantial funding increases which resulted in an expanded program. This growth is reflected in the branch reports which follow.

COMPUTER SERVICES BRANCH

D.R. McTAVISH
Director

The Computer Services Branch develops, maintains and supports computer programs and systems for the department. The branch, which is the primary liaison between the department and the Information Services Division, Alberta Government Services, consists of these sections:

Systems Planning is responsible for the development of short- and long-range data processing plans for the department.

Systems Development is responsible for the construction, implementation and maintenance of computer systems. This section also provides special technical support to the department.

Operations provides data entry, data control, and remote job entry services to department users.

During the reporting period, the branch worked on 221 projects, which consumed 23,558 man-hours. Approximately 11,000 man-hours were expended on non-project activities, including user support, education and teaching. The average project required 106 man-hours. Comments on some specific projects follow.

- **Construction and Financial Reporting System.** This system was constructed to provide head office staff with a means of keeping track of construction budgets and related expenditures in any fiscal year.
- **Regional Terminals.** Three regional and district offices were equipped with remote job entry facilities. The remaining offices were scheduled to have similar facilities installed by the end of December 1982. The facilities allow regional staff to access systems running on the computers operated by Alberta Government Services in Edmonton.
- **Microcomputers.** The two microcomputers installed in the previous fiscal year were evaluated and a departmental policy was formulated on their use. The department plans to install additional microcomputers where their use is warranted.
- **Fleet Unit Costing System.** Considerable maintenance was carried out on this system to improve its general operation and capability.
- **Human Resource Management Information System.** Specifications were written for this system and it is anticipated that implementation will begin in the 1983-84 fiscal year. The system is intended to assist the Personnel Branch in the areas of payroll and benefits, recruitment and selection, and organizational development.
- **Equipment Inventory System.** Maintenance was carried out on this system to improve its general operation. The system is used by the Equipment, Supply and Services Branch in the management of parts and materials acquired under the Transportation Revolving Fund.
- **Vendor Summary Reporting.** This system, used by the Finance and Administrative Services Branch, collects information on the payments made to the vendors that supply goods and services to the department.
- **Accounts Payable and Time Certificate Documents Status System.** The specifications for this system were completed during the reporting period. The system will provide information on the status of pay documents in order to respond to enquiries from the private sector and from wage employees.
- **Transmap.** This graphical system was implemented and is used as part of the transportation planning process. The system contains data such as population, resources, land use, transportation facilities, and political boundaries. The data in the system can be presented by type or in various combinations on a graphical display device.
- **Calgary C-Train Rider Survey.** Programming support was provided to aid in the collection and analysis of data collected during a survey of Calgary C-Train riders.
- **Culvert Design System.** This system was obtained, at no charge, from the Wyoming Department of Highways. It is used by the Bridge and Structural Engineering Branch in the design of culverts.
- **Structural and Soils Programs.** This package of programs was provided, at no charge, by the Ontario Ministry of Transportation and Communications. It provides facilities to aid structural engineers in the department.
- **ICES ROADS.** This system is used for nearly all the roadway design undertaken by the department. During the reporting period, the department received several enhancements that were developed as a result of a contract with the vendor, as well as enhancements from several highway departments in Canada and the United States. This co-operative approach to systems development allows each participant to receive the benefits of the enhancements at a substantially reduced cost.

EQUIPMENT, SUPPLY & SERVICES BRANCH

H. WILSON
Executive Director

The Equipment, Supply and Services Branch administers the department's Transportation Revolving Fund. In this role, the branch acts as a centralized service and supply agency addressing requirements of the department's program branches.

Audited financial statements for the Transportation Revolving Fund for the year ended March 31, 1982, are shown on the pages which follow.

The branch's responsibilities are implemented through three operations units: Equipment Fleet Management, Shop Operations, and Stores Operations.

EQUIPMENT FLEET MANAGEMENT

The Transportation Revolving Fund owns and operates a large fleet of fixed and mobile equipment employed by program branches to discharge their responsibilities in the construction and maintenance of roads, bridges, and airports within the provincial transportation system. Statistics on the employment of this equipment fleet are shown in Schedule A1 on this page.

The increase of 3.5 per cent in the size of the fleet, compared with the previous year, was due to the provision of additional equipment required to support new programs in the department's transportation system, including a new airport at Manning, 20 km of additional primary highway, 320 km of improvement district highway, and local access roads.

The increase in fuel consumption of 11.2 per cent (gasoline) and 16.9 per cent (diesel) over last year was occasioned by the increase in fleet use, including an increase of 19.4 per cent in kilometres travelled by road vehicles and an increase of 11.0 per cent in hours worked by the graders. Use of the caboose fleet (camp trailers) increased by 7.5 per cent, even though the size of the fleet increased by only two units, to 516 from 514 in the previous year.

The branch, with input from the program elements within the department, continued its efforts to provide technically innovative and cost-efficient equipment by the most economical means. Among equipment items introduced in the 1981-82 fiscal year were:

- A multi-purpose utility truck equipped with a hydraulic crane, earth auger and a set of hydraulic tools for emergency road sign service and guardrail maintenance;
- A 62,000 GVW (Gross Vehicle Weight) tractor truck equipped with an 8-ton hydraulic crane that can rotate 360°. This equipment provides improved operational capability for field crews engaged in bridge repair and maintenance;
- Self-propelled highway sweepers with 4 cu. yd. dirt hoppers and street flushers for cleaning overpasses, without depositing debris on traffic using lower highways.

SHOP OPERATIONS

The branch operates a network of 31 repair, maintenance and service facilities. Three new facilities were added during the year. These installations service, repair, overhaul and maintain the equipment fleet in accordance with established maintenance programs. They also provide services to program departments and other users on a cost-recovery basis. The two major facilities in the network are located at Airdrie and Edmonton. Operations at these two facilities include the manufacture of finished goods and the overhaul and reconditioning of components for inventories.

The branch's Sign Shop in Edmonton manufactured 54,000 signs during the year. This was an increase of 8 per cent over the 50,000 signs manufactured in 1980-81.

On March 31, 1982, 232 positions were authorized on the personnel establishment of the Transportation Revolving Fund for assignment to Shop Operations.

Schedule A1

EQUIPMENT FLEET STATISTICS

	Units	Fuel Consumed		Distance	Time in Use	
		Gasoline	Diesel			
	#	decalitres		kilometres	Hours	Days
Trucks						
1-ton and under	1 544	933 054	23 618	37 222 583		
Over 1-ton	704	74 546	561 967	13 870 578		
Total	2 248	1 007 600	585 585	51 093 161		
Graders	268	2 263	431 964		277 098	
Cabooses	516					113 363
Other	3 285	60 775	439 230			
Total	6 317	1 070 638	1 456 779	51 093 161	277 098	113 363
Previous year's total	6 101	962 791	1 246 653	42 800 057	249 702	105 459
Percentage change	+3.5	+11.2	+16.9	+19.4	+11.0	+7.5

Shop Operations is also responsible for the department's Apprentice Training Program. On March 31, 1982, this program was financing 130 apprentices. This was an increase of 25 apprentices over the number in the program on March 31, 1981. Apprentices under training consisted primarily of heavy-duty mechanics, welders and partspersons.

STORES OPERATIONS

Through its parts and materials inventory, Stores Operations supports the fleet equipment maintenance and repair program carried out by Shop Operations. In addition, the unit provides customized materials for the department's program branches, and for other government users. Main classifications of items in this service are: Machine parts and related materials, and specialized road construction and maintenance materials, including stockpiles of gravel.

Approximately 31,000 individual line items are included in the Stores Operations inventories. At the end of the 1981-82 fiscal year, 90 per cent of inventories had been converted to a computer control system. Benefits emanating from this conversion include improved accounting, standardization of procedures, and more efficient asset management. Mechanization of the total inventory system is scheduled for completion in the 1982-83 fiscal year.

TRANSPORTATION REVOLVING FUND

FINANCIAL STATEMENTS
MARCH 31, 1982

Auditor's Report

Balance Sheet

Statement of Operations and Surplus

Statement of Changes in Financial Position

Notes to the Financial Statements

Schedule of Equipment Maintenance and Operating Expenses

Schedule of Material Sales and Shop Operations

ALBERTA LEGISLATURE

OFFICE OF THE AUDITOR GENERAL

AUDITOR'S REPORT

To the Minister of Transportation

I have examined the balance sheet of the Transportation Revolving Fund as at March 31, 1982 and the statements of operations and surplus and changes in financial position for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Fund as at March 31, 1982 and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

C.A.
Auditor General

Edmonton, Alberta
September 30, 1982

Statement A

TRANSPORTATION REVOLVING FUND

BALANCE SHEET
As at March 31, 1982

	1982	1981
Assets		
Current:		
Accounts receivable	$13,133,253	$12,543,054
Inventories (Note 3)	22,567,452	17,267,492
Land inventory	14,569,478	8,131,442
	50,270,183	37,941,988
Fixed:		
Equipment, at cost	64,336,796	53,222,159
Less: Accumulated depreciation	33,230,928	28,268,405
	31,105,868	24,953,754
	$81,376,051	$62,895,742
Liabilities and Surplus		
Current:		
Accounts payable	$ 6,063,323	$ 6,689,241
Provincial Treasurer's advance	78,678,522	55,284,105
Surplus (deficit), Statement B	(3,365,794)	922,396
	$81,376,051	$62,895,742

The accompanying notes are part of these financial statements.

Statement B

TRANSPORTATION REVOLVING FUND

STATEMENT OF OPERATIONS AND SURPLUS
For the year ended March 31, 1982

	1982	1981
Equipment operation:		
Rentals	$21,836,169	$20,064,544
Gain on disposal of equipment, net	274,254	284,163
	22,110,423	20,348,707
Less: Maintenance and operating expenses, Schedule 1	21,592,139	15,789,928
Depreciation	6,357,821	5,357,363
	27,949,960	21,147,291
Loss on equipment operation	5,839,537	798,584
Net profit on material sales and shop operations, Schedule 2	1,551,347	1,604,208
Net profit (loss) for the year	(4,288,190)	805,624
Surplus at beginning of year	922,396	116,772
Surplus (deficit) at end of year	$(3,365,794)	$ 922,396

TRANSPORTATION REVOLVING FUND

STATEMENT OF CHANGES IN FINANCIAL POSITION
For the year ended March 31, 1982

	1982	1981
Funds were provided from:		
Operations:		
Net profit (loss) for the year	$(4,288,190)	$ 805,624
Items not involving current funds:		
Depreciation	6,357,821	5,357,363
Gain on disposal of equipment, net	(274,254)	(284,163)
	1,795,377	5,878,824
Advances from the Provincial Treasurer	76,005,931	44,701,297
Proceeds from equipment disposals	583,297	461,015
	78,384,605	51,041,136
Funds were applied to:		
Repayment of advances from the Provincial Treasurer	52,611,514	42,101,965
Additions to equipment	12,818,978	8,674,494
	65,430,492	50,776,459
Increase in working capital	12,954,113	264,677
Working capital at beginning of year	31,252,747	30,988,070
Working capital at end of year	$44,206,860	$31,252,747

TRANSPORTATION REVOLVING FUND

NOTES TO THE FINANCIAL STATEMENTS
March 31, 1982

Note 1 Authority

The Transportation Revolving Fund operates under the authority of the Department of Transportation Act, Chapter D-30, Revised Statutes of Alberta 1980.

Note 2 Significant Accounting Policies

(a) Inventories

Inventories are valued at cost or computed average cost. Gravel inventories are purchased for and maintained by the Department of Transportation. Portions of inventories of lumber and petroleum products are held by third parties.

(b) Land Inventory

Land, which is purchased for the Property Services Branch of the Department of Transportation and can be transferred at any time upon request, is valued at cost less recoveries from sales and rentals.

(c) Depreciation

Equipment is depreciated on a straight-line usage basis with the exception of ¾-ton trucks, which are depreciated on the basis of kilometres used. The approximate useful life of major equipment categories is as follows:

Light trucks	4 years
Heavy trucks	6 or 7 years
Graders, tractors, loaders, trailers, asphalt plants and cranes	8 or 10 years

(d) Administration Expenses

Repair shops, warehouse facilities, head office accommodations, basic office equipment and furnishings and certain salaries and wages are provided by the Province of Alberta at no cost to the Fund, and accordingly are not reflected in these financial statements.

Note 3 Inventories

Inventories are summarized as follows:

	1982	1981
Parts and supplies	$15,005,633	$11,986,775
Gravel	5,129,977	2,643,169
Lumber	1,818,612	2,038,005
Petroleum products	306,908	232,570
Work in progress	306,322	366,973
	$22,567,452	$17,267,492

Note 4 Comparative Figures

The 1981 figures have been restated, where necessary, to conform to 1982 presentation.

Note 5 Approval of Financial Statements

These financial statements were approved by management on September 30, 1982.

Schedule 1

TRANSPORTATION REVOLVING FUND

SCHEDULE OF EQUIPMENT MAINTENANCE AND OPERATING EXPENSES

For the year ended March 31, 1982

	1982	1981
Labor	$ 6,175,600	$ 5,032,260
Parts	6,134,344	4,861,887
Diesel fuel	3,311,369	1,954,413
Gasoline	2,704,721	1,657,794
Blades	1,647,622	1,205,145
Tires	1,119,742	892,029
Lubrication	562,131	386,863
Miscellaneous	668,302	403,228
	22,323,831	16,393,619
Less: Internal equipment rentals	731,692	603,691
	$21,592,139	$15,789,928

Schedule 2

TRANSPORTATION REVOLVING FUND

SCHEDULE OF MATERIAL SALES AND SHOP OPERATIONS

For the year ended March 31, 1982

	1982	1981
Revenue:		
Material sales	$29,571,875	$25,411,520
Shop labor services	1,597,454	1,329,931
Surcharge on land sales	251,084	86,563
	31,420,413	26,828,014
Expenses:		
Cost of material sales	28,027,751	23,947,898
Shop labor	1,232,060	762,937
Administration	609,255	512,971
	29,869,066	25,223,806
Net profit	$ 1,551,347	$ 1,604,208

FINANCE & ADMINISTRATIVE SERVICES BRANCH

D.J. PORTER
Executive Director

The Finance and Administrative Services Branch is responsible for implementing financial practices in the department consistent with the Financial Administration Act, 1977, and for the provision of financial and administrative services in support of departmental programs. In accomplishing these aims, the branch acts as primary liaison to Alberta Treasury concerning financial matters, and to Alberta Housing and Public Works and Alberta Government Services concerning administrative services. The branch is organized functionally into four sections with the following key responsibilities:

Financial Planning and Control

- ☐ Annual budget preparation and analysis
- ☐ Program expenditure/revenue analysis

Accounting Operations

- ☐ Payment of accounts
- ☐ Collection of accounts
- ☐ Preparation of financial reports

Financial Systems and Methods

- ☐ Development of financial systems
- ☐ Financial system user training

Administrative Services

- ☐ Facilities and accommodation planning services
- ☐ Records and forms managements
- ☐ Office services: mail/courier services, blueprinting services, and office equipment and stationery supply services.

A Statement of Revenue for the department, and a Statement of Operations for the year ended March 31, 1982, are shown on the opposite page.

ALBERTA TRANSPORTATION

REVENUE*
For the year ended March 31, 1982
(with comparative figures for 1981)

	(in $'000) 1982	1981
Taxes	$ 1	$ 1
Licences	7,472	5,038
Fees and Permits	(753)	2,956
Government of Canada — cost-shared programs	3,280	6,135
Refunds of Expenditure	971	765
From Revenue-Producing Assets	574	784
Sale of Assets	7	117
Miscellaneous	925	106
Total Revenue	$ 12,477	$ 15,902

ALBERTA TRANSPORTATION

STATEMENT OF OPERATIONS*
For the year ended March 31, 1982
(with comparative figures for 1981)

	(in $'000) 1982	1981
Funds Provided:		
Estimates	$745,091	$562,380
Special Warrants	47,543	28,431
Public Service Transfers	4,651	—
Total Funds Provided	$797,285	$590,811
Funds Applied:		
Operations —		
Departmental Support Services	8,512	5,794
Construction & Maintenance of Highways	588,649	411,594
Construction & Maintenance of Rail Systems	10,158	9,903
Construction & Maintenance of Airport Facilities	12,328	10,729
Transportation Planning Services	10,247	8,828
Urban Transportation Financial Assistance	155,508	133,161
Surveys & Property Acquisition	2,188	6,624
Total Funds Applied — Operations	$787,590	$586,633
Prior Year Liabilities	1,987	830
Total Funds Applied	$789,577	$587,463
Excess of Funds Provided over Applied	$ 7,708	$ 3,348

* Unaudited

PERSONNEL BRANCH

D.R. LEAROYD
Director

The Personnel Branch continued to sustain heavy workloads in the period under review. The major contributing factors were difficulties in recruitment and retention occasioned by low unemployment in the province and by a high demand for professional and technical class employees.

During the period, some 450 positions were staffed through 453 competitions. The average vacancy rate of approximately 400 remained comparatively static, mainly due to high turnover and the difficult recruitment market for professional technical positions.

There was a substantial increase in classification activity, 422 actions being completed.

The department recorded a noticeable increase over previous years in the number of employee grievances processed. A total of 22 grievances was received, with several going to the fourth level.

A major function of the branch is the annual recruitment, selection and administration of a large wage work force employed during the construction season in various projects throughout the province. In September 1981, the department had a peak work force of 2,517 wage employees. The number of employees in permanent positions averaged 3,195 during the year.

The branch's Organizational Development Section experienced accelerated growth through substantially increasing the number of courses in management development and functional training. In total, 770 permanent employees attended 616 different courses involving 3,527.7 man-days and incurring a cost of $681,608.

The branch co-ordinated departmental input into the negotiations for the new Master and Divisional agreements.

Other activities undertaken during the year included the start of development of a Human Resource Management Information System, and an internal study directed towards the reorganization of the branch. Both these projects are scheduled for completion in the next fiscal year.

ENGINEERING DIVISION

ENGINEERING DIVISION

R.H. CRONKHITE
Deputy Minister

The Engineering Division provides the engineering for the department's operations, including construction of highways, roads, bridges, airports and terminal buildings; and for transportation safety and research.

A significant enlargement of work volume in the department's various programs required increased design, material engineering, and contract development throughout the year. Increased computer application assisted in handling this volume.

To improve the department's capacity for supervision of enlarged paving programs, the Engineering Division tested and established specifications for the use of pavement smoothness measurements, using profilograph units.

The division increased technical training to equip inspectors for better field control of quality. The use of private consultants was extended in covering design, geotechnical applications, and gravel research.

During the reporting period, the formal transfer of the Surveys and Mapping Branch to Alberta Energy and Natural Resources was completed.

Reports follow which highlight the activities of the division's branches during the 1981-82 fiscal year.

BRIDGE & STRUCTURAL ENGINEERING BRANCH

F.C. HARVEY
Chief Bridge Engineer

The Bridge and Structural Engineering Branch provides the structural engineering components of the department's construction programs. This work is implemented through the branch's five sections: Planning, Design, Materials, Construction, and Office Support. These sections, between them, carry through projects from initial planning and scheduling to the completion of construction.

Through the Planning Section, bridge locations are selected with regard to functional planning, hydrometric data, hydraulic design, and environmental requirements. River channel improvements and erosion control works are an integral part of bridge design.

In the Design Section, new bridges are designed with the aid of powerful computers. Analytical and design tasks are performed to provide for overloads, bridge reconstruction, and major repairs.

Materials are purchased by the Materials Section and subsequently inspected to ensure quality. Purchases range from a few bolts for a repair job, to the massive girders which span the Athabasca River at Fort MacKay.

The Construction Section prepares contract documents, calls for tenders, and administers contracts through construction. All projects, from simple weigh scale pits to major bridges, are inspected as they are being built to ensure compliance with specifications.

The Office Support Section undertakes fiscal accounting for materials purchased, construction by contract, and staff, to ensure that expenditures fall within appropriated monies. Anticipated expenditures are constantly evaluated to provide overall management of the annual program.

In addition to the regular program of bridge construction, the branch provides engineering, consultant liaison and construction management for special department projects which, this year, included the construction of airport terminal buildings at Fort Vermilion and Manning, and a maintenance building at Manning.

Restoration and preservation of concrete bridge decks affected by salt action in winter continued, complete resurfacing with high-strength concrete as well as repairs being undertaken.

The program for providing separations to reduce the number of at-grade railway crossings continued. The branch is negotiating with the Canadian Transport Commission and the major railways with respect to updating clearance standards and cost-sharing formulas.

Engineering and construction of bridges and bridge-size culverts continued in the environmentally sensitive Kananaskis Country, where special aesthetic qualities are required.

MAJOR BRIDGE CONSTRUCTION PROJECTS

Here are the major bridge construction projects on which work started in the 1981-82 fiscal year.

Highway 2 in and west of Peace River: Four bridge projects were started in the reconstruction of the west Peace River Hill access to the Town of Peace River. The projects are: 1) Extension of the CNR bridge over the Peace River to span also a new alignment of the Shaftesbury Trail; 2) An overpass which carries Highway 2 over a CNR industrial spur immediately to the west of the Peace River highway bridge; 3) An overpass on Highway 2 over both the CNR tracks and a local road midway up the hill; and 4) An overpass which carries the CNR over Highway 2 at the top of the hill.

Seba Grade Separation: The twinning of Highway 16 west of Edmonton called for the construction of this grade separation at the intersection of Highways 16 and 31.

CNR Overpass on Highway 16X west of Edmonton: Construction of Highway 16X west of Edmonton (Yellowhead Highway) to freeway standards required twin overpass structures over the CNR mainline tracks. Upon completion of the overpass, the level crossing now in use will be removed, as will the hazard and inconvenience to highway users.

Little Red Deer River Bridge at Westward Ho: In conjunction with reconstruction of Highway 27, this new longer bridge will accommodate an excellent alignment. A greater load capacity will be provided as a bonus.

McLeod River south of Bickerdike: The truss spans crossing the McLeod River on Highway 47 restrict weight and dimension of truck loads. While not an old bridge (about 25 years), it no longer meets the standards of the rest of Highway 47 (which has been upgraded to carry coalfield development traffic). A new superstructure is being placed on the existing piers, while the old trusses carry highway traffic on temporary piers just upstream.

Hospital Street Grade Separation at Fort McMurray: Residential areas have expanded on both sides of Highway 63 in Fort McMurray. This grade separation will provide for the safe interchange of traffic between Hospital Street and Highway 63. It will also provide a direct route from a residential development to the downtown commercial area.

Kakwa River Bridge on Highway 940: The proposed Highway 940 will connect Highways 2 and 16 along the western edge of the province. The Kakwa River Bridge, on the extension of existing Highway 940, is designed to carry the heavy industrial loads associated with oilfield development and with logging.

Simonette River Bridge south of Goodwin: The road which travels south from Highway 2 at Goodwin toward the Grande Cache area, and linking with Highway 940, is local in designation and nature. It does, however, carry considerable lumbering and oilfield development traffic, and warrants upgrading at the Simonette River crossing. Consequently, two truss spans from the old Nolan Bridge are being strengthened and re-erected at this site on new concrete piers.

North Saskatchewan River Bridge at Berrymoor: For many years a ferry has provided a crossing of the North Saskatchewan River on SR 759; this is the only crossing between the Drayton Valley and Genesee bridges. Ferries are

vulnerable to river ice and extreme floods. A new bridge is being built at Berrymoor to provide year-round service.

Kananaskis Country Bridges: Three bridges were started in Kananaskis Country. They all have the architectural enhancement that is unique to Kananaskis Country bridges, and they feature sidewalks and roadway shoulders suited to bicycles. The bridges are: 1) Elbow River Bridge on Highway 66; 2) Kananaskis River Bridge on the Alpine Village Access Road; and 3) Ribbon Creek Bridge on the Alpine Village Access Road.

OTHER BRIDGE CONSTRUCTION PROJECTS

Note: Unless otherwise indicated, bridges are prestressed concrete girder-type construction. Projects marked with a single asterisk (*) were completed in 1981-82 but were started in a previous year; projects marked with a double asterisk (**) were commenced in 1981-82 and carried over into the following year.

On Primary Highways

Highway	River Bridges
2	Spirit River (widening)
5	St. Mary River (widening)
9	* Michichi Creek — Concrete culvert
10	Truss strengthening — Steel trusses
16	Lobstick River (widening) — Steel girders
19	* Whitemud Creek
22	Bearberry Creek
28	Sturgeon River — Steel girders
41	Gros Ventre Creek — Culvert
49	Burnt River — Rebuilt deck
51	* Medicine River
67	* Bear River
SR 940	Cat Creek
SR 963	Athabasca River — Steel girders
SR 967	S. Senex Creek
SR 967	N. Senex Creek — Culvert
SR 967	* Wabasca River — Steel girders
	Grade Separations
2	** Edmonton International Airport — Steel girders
2	** Nisku
13	** CPR Wetaskiwin
43	* CNR Overpass
SR 901	** CPR Overpass

On Secondary and Local Roads

Highway	River Bridges
SR 500	** Milk River — Salvage truss
SR 697	Boyer River
SR 748	** Edson River (widening)
SR 750	** Salt Creek
SR 762	Fish Creek
SR 810	* Waterton River
SR 836	* Threehills Creek — Culvert
SR 843	* B.R.I.D. Canal, Lomond
SR 861	Battle River — Steel girders
SR 884	* Red Deer River — Steel truss
Local	* Tawatinaw River
Local	* Sturgeon River, Villeneuve — Steel girders
Local	* Weed Creek — Salvage steel girders
Local	* Willow Creek, W. Claresholm
Local	** Kneehill Creek — Salvage
Local	* Willow Creek — Salvage truss
Local	** Crowsnest River
Local	** Grease Creek
Local	** Economy Creek — Culvert
Local	** Carbondale River
Local	** Lynx Creek
Local	* West Prairie River
Local	Whitecourt Creek — Culvert
	Grade Separations
Local	* CNR Underpass/Bridge — Steel girders (railway)
Local	** CPR Underpass — C.I.P. concrete (railway)

CONSTRUCTION AND RECONSTRUCTION OF STANDARD-TYPE BRIDGES

Bridge Type	Primary Hwys	District Roads	Total
Standard	11	67	78
Salvage steel	0	2	2
Culverts	62	220	282
	73	289	362

BRIDGE REPAIRS

Bridge Type	Primary Hwys	District Roads	Total
Major	138	135	273
Standard	38	168	206
Culverts	16	9	25
	192	312	504

CONTRACTS ENGINEERING BRANCH

C.E. SHAUL
Director

The Contracts Engineering Branch is responsible for the preparation, tendering, and head office administration of contracts for the construction of primary highways, secondary roads, roads to provincial parks, approach roads, and airports. The branch is also responsible for the assessment of contractors' claims and for recommendations on the resolution of claims, for development and construction in the Highway Illumination Program, and for the design of traffic signing and control systems.

The development of construction agreements for primary highway construction through towns and villages is also handled in the branch, as is the development of the Schedule of Rental Rates for Construction Equipment and the coordination of environmental management activities.

Here are highlights of the work accomplished during the reporting period by the branch's three sections: Contracts Administration, Construction Claims and Standards, and Environmental Management. These branch highlights are followed by a summary of materials used and a year-end statement of the length of the highway and road networks.

CONTRACTS ADMINISTRATION SECTION

The Contracts Administration Section prepared and advertised 172 construction contracts. These included 111 contracts for grading, base and/or paving construction, 42 for gravel crushing, and 19 for traffic signals, lighting, and buildings. The total value of these contracts, not including asphalt material and engineering, was approximately $181 million. Contract administration procedures included checking tenders, processing contract extensions, administering final clearances and bonds, auditing final details, and authorizing final contract payments.

Construction and mileage records were maintained, cost indexes calculated, and reports prepared on construction and other details of the highway system.

CONSTRUCTION CLAIMS AND STANDARDS SECTION

The Construction Claims and Standards Section, in consultation with Regional Transportation staff, developed 10 agreements for the construction of primary highways through cities, towns and villages. Development, budgeting, and programming of this construction activity was undertaken, together with recommendations on priorities for projects, limits of projects, cost-sharing amounts, design standards, and the assessment of consulting engineering plans.

Eleven agreements were concluded with various engineering and technical consultants to provide engineering studies, surveys, designs, specifications, and contract supervision.

The department's annual Schedule of Rental Rates for Construction Equipment was redeveloped to reflect present costs and market conditions.

The branch assisted in curriculum development and instruction for a one-month In-Service Survey School. Forty employees from Alberta Transportation's regional staff participated and obtained a class average mark of 81 per cent.

The Highway Illumination Program was highlighted by the installation of lighting systems at the interchange of Highways 2 and 27 east of Olds, and at the interchange of Highways 1 and 1A near Chestermere Lake. Improved street lighting was also provided through 11 towns, villages and hamlets; in two areas adjacent to weigh scales; at 13 junctions of primary highways to approach roads; at three junctions of two primary highways; and at the junction of a primary highway with a secondary road.

The section is also responsible for the assessment of claims arising on construction contracts, and for formulating recommendations for settlement of these claims. A number of such claims was resolved in consultation with Regional Transportation and contractor representatives.

ENVIRONMENTAL MANAGEMENT SECTION

The Environmental Management Section continued its liaison with other Alberta Government agencies in order to alleviate the impact of highway construction activities on the environment. The Provincial Action Committee on Erosion completed its assignment during the reporting period, and will be reconvened when situations warrant.

Several archaeological sites were protected from construction forces until archaeological survey and salvage work was completed by consultants. Alberta Culture continued its surveys of proposed highway development, the necessary work being subsequently carried out with funding by Alberta Transportation.

Measures to mitigate environmental damage continued to be incorporated into the design and construction of roadways in Kananaskis Country, in co-operation with environmental consultants. Salvage of merchantable timber was included in numerous contracts advertised during this reporting period.

SUMMARY OF MATERIALS

Between April 1, 1981 and March 31, 1982, the following materials were used in contract construction work on provincial primary highways, secondary roads, airports, approach roads, and provincial park roads:

First course gravel surfacing	316 340 m^3
Subgrade backfill materials	282 269 m^3
Stabilized base course gravel	4 808 469 t
Cement stabilized base course (sand)	671 106 t
Asphalt stabilized base course (on cement stabilized)	204 457 t
Asphalt base-pavement gravel	509 605 t
Asphalt surfacing gravel	3 390 163 t
Granular supply for culverts	16 876 m^3
Gravel to dead hauls	89 010 m^3
Total asphalt used	212 480 t
Total cement used	59 755 t

These volumes of gravel and sand were removed from pits:

Gravel to road	4 400 753 m^3
Gravel to stockpile	2 638 419 m^3
Sand to road	665 396 m^3

LENGTH OF ROADS

At the end of the reporting period, the lengths in kilometres of existing provincial primary highways, approach roads, and provincial park roads were:

Primary Highways

Asphalt surface, 2-lane	10 039
Asphalt surface, 4-lane undivided	45
Asphalt surface, 4-lane divided	561
Asphalt surface, 6-lane divided	46
Gravel surface, 2-lane	1 295
Dust control, 2-lane	1 115
	13 101

Approach Roads

Asphalt surface, 2-lane	246
Gravel surface, 2-lane	30
Dust control, 2-lane	48
	324

Park Roads

Asphalt surface, 2-lane	243
Gravel surface, 2-lane	16
Dust control, 2-lane	39
	298

900 Series
Secondary Roads
(Preceding primary declaration)

Asphalt surface, 2-lane	6
Gravel surface, 2-lane	64
Dust control, 2-lane	21
	91

During the reporting period, 74 km of secondary and other roads were designated as primary highways. The primary highway system, however, was reduced 36 km due to the expansion of city boundaries.

MATERIALS ENGINEERING BRANCH

G.A. BERDAHL
Director

The Materials Engineering Branch is responsible for:

- ☐ Geotechnical engineering services and standards in support of all departmental programs.
- ☐ Testing and quality control standards and procedures for roadway and airport construction.
- ☐ Pavement inventory, performance monitoring, design standards and services for surfacing programs.
- ☐ Surfacing program recommendations.
- ☐ Departmental laboratory testing and mix design services.
- ☐ Aggregate supply and management.
- ☐ Training of materials inspection personnel.
- ☐ Specialized engineering services in materials-related matters.

These reponsibilities are handled through the branch's four sections.

AGGREGATE SERVICES SECTION

The Aggregate Services Section is responsible for managing the aggregate supplies required to meet the needs of the department's construction and maintenance programs. This work includes the location, testing, acquisition, and allocation of aggregate; the provision of aggregate-related specifications; and recommendations and standards on aggregate source reclamation. During the year, nine aggregate prospecting crews located approximately 23.2 million cubic metres of gravel and 1.7 million cubic metres of sand.

GEOTECHNICAL SERVICES SECTION

The Geotechnical Services Section is responsible for providing geotechnical investigation analysis and design services and standards for the planning, design, construction and maintenance of roadways, airfields and bridges.

During the year, three crews investigated 54 bridge/culvert sites, requiring approximately 3 400 m of drilling. Approximately 14 350 m of drilling was performed for roadway and airport preliminary surveys. Subsurface drainage factors called for approximately 7 550 m of horizontal drilling.

In addition to research into problems concerning foundations, slope stability, subsurface drainage, soil stabilization, swelling, frost heaving, and erosion, investigations continued into the potential use of plastic culverts.

SURFACING SECTION

The Surfacing Section is responsible for establishing design standards and procedures, and for providing designs for the department's roadway and airfield paving programs. Through pavement condition monitoring and inventory, recommendations are made for the programming of pavement rehabilitation and seal coat projects.

Other section responsibilities include the preparation of specifications for surfacing materials and construction; the initiation of orders for asphalt, cement and other stabilizing agents; and the provision of technical and professional assistance and advice with respect to surfacing matters.

The section's pavement evaluation program continued to provide strength, smoothness and condition information for roadway and airfield programming and design purposes. This program was enhanced by the acquisition of high-speed, skid-resistant measuring equipment.

During the year, six Benkelman Beam crews conducted approximately 97,000 tests on 6 624 km of roadway and runway. One Dynaflect crew performed approximately 12,000 tests on 490 km of roadway and runway. Two roadmeter crews measured smoothness on approximately 14 000 lane-kilometres of roadway and runway, and rated the condition of approximately 11 000 km of roadway.

Approximately 1 300 m of coring, drilling and sampling was performed on 60 projects. The number of frost probes in service rose to 53.

In co-operation with the Alberta Research Council, progress was made in the development of a computerized pavement management system for use in the pavement rehabilitation programming, budgeting and design processes.

The section's design unit developed 363 roadway designs and cost estimates for base course, surfacing, crushing, and gravelling projects. This unit also programmed and designed 33 seal coat projects, extending over approximately 750 km.

Initial steps were taken to investigate the use of asphalt pavement recycling as a means of conserving asphalt, aggregate and energy, and reducing the cost of pavements.

Investigation continued into the use of alternative materials to improve the performance and reduce the cost of pavements. This included a further trial of rubber-asphalt, and the design and construction of the first Alberta full-scale sulphur-extended asphalt contract, using a drum mix plant.

TESTING SERVICES SECTION

The Testing Services Section, through the Transportation Laboratory, is responsible for providing services and standards in materials and quality control testing, mix design, materials inspector training and certification, test equipment supply, and evaluation of new materials and processes.

The Transportation Laboratory performed over 125,000 tests on approximately 18,600 samples of soil, aggregate, asphalt, cement, paint and other construction and maintenance materials. Eighty mix designs were performed on asphalt concrete and soil cement materials.

Fourteen materials training courses, involving 86 course-days, were presented to 232 technologists and project managers, involving 1,482 man-days of training. Projects were supplied with 317 kits of testing equipment.

The section's field services unit visited 89 construction projects to monitor and assist with plant calibrations, testing procedures, quality control and testing problems. Investigation continued into such materials as sulphur-extended asphalt, rubber-asphalt, fly-ash, lime, and enzyme soil stabilizers, as well as into measurement procedures for base course density and pavement smoothness. Pavement smoothness quality control was enhanced by the acquisition of three additional California Profilographs.

DESIGN ENGINEERING BRANCH

P.M. EVJEN
Director

The Design Engineering Branch is responsible for:

- ☐ Development and monitoring of geometric standards for all primary highway, secondary road and provincial airport construction.
- ☐ Detailed geometric design and drafting services in support of all departmental programs.
- ☐ Preparation of information for preliminary surveys and right-of-way requests for all highway construction projects.
- ☐ Recommendations on grading program.
- ☐ Computerized earthwork design quantities and contract design packages for all primary highway, secondary road and provincial airport construction.
- ☐ Co-ordination of utility relocations.
- ☐ Detailed project construction schedules for contract provision.
- ☐ Computerized final earthwork quantity calculation services in support of all departmental programs.
- ☐ Training of design, drafting and field personnel for computerized applications.

These responsibilities are handled through the branch's four sections: Pre-Contract Scheduling and Utilities Co-ordination, Airport Engineering, Design Support, and Roadway Design.

PRE-CONTRACT SCHEDULING AND UTILITIES CO-ORDINATION SECTION

The Pre-Contract Scheduling and Utilities Co-ordination Section arranges and co-ordinates clearances over utilities' rights-of-way, and resolves other conflicts to facilitate construction of roadways. These activities are also undertaken, to a partial degree, for the construction of airfields and bridges. During the reporting period, protection or relocation was arranged and co-ordinated for 475 pipelines, for 390 km of power lines, and for 470 km of telephone cables.

Also, the section develops detailed project construction schedules for contract provisions to ensure orderly construction progress, and co-ordinates the planning, design, construction and maintenance of the vehicle inspection stations (weigh scales) program.

AIRPORT ENGINEERING SECTION

The Airport Engineering Section is responsible for conceptual planning, site evaluation, and detailed engineering design for provincial, community and industrial airports designated within the provincial airport development program. Also, the section provides project management for the provincial airport terminal building program.

To accomplish these tasks, the section develops and maintains geometric airport standards, initiates and monitors preliminary surveys, issues requests for construction materials, and designs and drafts airport plans for tendering.

During the reporting period, the section developed 18 conceptual plans, each with due consideration for airport zoning, wind analysis, site suitability and construction cost. Detailed engineering design was completed on six new airports, with design enhancements completed on six existing airports. Runway lighting and marking designs were completed on 16 facilities; two visual approach guidance systems were also designed. In all cases, the section provided contract tender quantities and any special provisions in close liaison with other branches.

In the airport terminal building program, work was completed on the Lloydminster terminal building. Significant progress was made on the Fort Vermilion and Manning terminal buildings. Minor clean-up of deficiencies was made on the Medicine Hat and Red Deer terminal buildings.

The design for a major airport terminal building at Peace River was co-ordinated with an architectural consultant, Transport Canada, Pacific Western Airlines, and Time Air. Tendering and construction start-up took place during this reporting period. Preliminary work on three additional facilities is under way.

The section provides ongoing assistance to Regional Transportation personnel in the interpretation of drawings and specifications, in checking final details, and in providing assistance when design changes are warranted.

DESIGN SUPPORT SECTION

The Design Support Section:

- ☐ provides drafting services for all highway construction programs;
- ☐ establishes and maintains departmental drafting standards;
- ☐ determines five-year computer system development and acquisition requirements, and prepares service request specifications to achieve these needs;
- ☐ co-ordinates use of computerized methods for processing final earthwork quantity calculations and plots to meet Regional Transportation requirements for the 15 district offices; and
- ☐ trains design engineers, design and drafting technologists.

Drafting services provided during the reporting period included preparation of 346 mosaic profile plans and 1,601 plans related to construction projects. Plans prepared totalled approximately 27 per cent more than in the previous reporting period.

The first phase of the branch microfilm project was completed. This involved microfilming 80 per cent of the 60,000 images included in the project. Completion of this first phase alleviates existing storage space problems, and ensures the future security of the department's plans and files. The requirement now is to resolve outstanding problems, and determine the scope of the project's second phase and the disposition of approximately 25,000 survey books currently maintained and stored by the section.

During the 1981-82 fiscal year, all duties related to the co-ordination, training and implementation of the Final Earthwork Quantity computerized system, used for processing final grading quantity requirements for district staff, were

transferred from the Contracts Engineering Branch to this section. As a result of this transfer, the section's use of computerized methods for processing these requirements increased by approximately 250 per cent over the previous year. Section staff computer-processed final requirements for 330 km of major highway projects, 387 km of project overhaul, 161 borrow pits, and three airport projects.

During the reporting period three new enhanced McAUTO Roadway Analysis Design systems were installed and tested. Training was provided to roadway and airport design engineers and technologists prior to implementing the use of these systems in the branch production systems. Five major enhancements in existing McAUTO systems were developed in co-operation, and through shared funding, with other Canadian and United States users of the McAUTO system.

Four additional video display terminals and an additional graphics display work station were acquired to meet expanding computer processing requirements.

Three staff members were trained in the use of the Document Composition Facility system, which is employed in the preparation of contract specification documents, signing manuals, metric sign order books, and primary highway designation records.

ROADWAY DESIGN SECTION

The Roadway Design Section is responsible for:

- ☐ developing and maintaining geometric design standards;
- ☐ preparing right-of-way requests;
- ☐ initiating preliminary surveys;
- ☐ co-ordinating orders for, and delivering, construction materials, such as culverts and fencing materials; and
- ☐ performing detailed geometric design of all grading projects.

During the 1981-82 fiscal year, detailed preliminary survey instructions for 57 projects, totalling 735 km, were provided to the Regional Transportation district offices. These projects included multilane freeways and expressways, and rural arterial and collector highways and major interchanges, complete with their associated loops, ramps, and service roads.

Detailed designs were completed on 75 projects, totalling 667 km; four major interchanges and two overpasses are included in this total. Almost all designs are done by computer, the exceptions being mostly grade widening, interchange complexes, and intersectional treatments. In addition, 13 projects were designed by the field staff and consultants under the supervision of the design engineers.

Five projects of previously designed work, totalling 30 km, were updated by the section to current design standards.

A further 135 miscellaneous projects, such as intersectional treatments, were designed.

All cross-section data notes were reduced by computer, and plotted by the Calcomp plotter to a reduced scale convenient for design purposes and field use.

OPERATIONAL DESIGN BRANCH

K.E. HOWERY
Director

The Operational Design Branch is responsible for providing support to the department in five section areas:

- ☐ Design and Environmental Services,
- ☐ Location Study Services,
- ☐ Roadside Development,
- ☐ Photogrammetric Services, and
- ☐ Technical Services.

The branch provides engineering services primarily to the department's Engineering and Regional Transportation divisions. These services form the basis for more detailed design and the determination of right-of-way requirements.

Interaction with other branches and divisions of the department, with other government departments, planning agencies and the general public is an essential part of the branch's function in reaching agreements on the important standards and specific design features of a project.

DESIGN AND ENVIRONMENTAL SERVICES SECTION

The Design and Environmental Services Section provides pre-construction design for roadways, intersections, interchanges; prepares access control plans; and provides input into the processing of area structure plans and other planning documents.

During the reporting period, work was completed on 58 access control, intersection improvement, landscaping and miscellaneous projects. Eight economic and environmental impact analyses and reviews were completed. Projects under development totalled 54. Preliminary designs and reviews were completed for 21 interchange sites; 26 additional sites are now under study.

Highlights of this work included the following:

- Preliminary plans were completed for expanding 143 km of existing two-lane primary highway to multilane divided expressway standards. Work is being advanced on preliminary plans for the multilaning of an additional 130 km of the Trans-Canada Highway.
- Advanced interchange designs were prepared for the intersections of Highways 2 and 22X south of Calgary, Highways 2 and 2A south of Red Deer, and Highways 16 and 22 at Entwistle.
- More detailed review work was undertaken on the northwest by-pass section of the Calgary Parkway Ring.
- Co-ordination work was carried out for the rationalization of the Transportation and Utility Corridors and for the integration of utilities with roadway design for the Calgary and Edmonton parkway rings.
- Detailed landscaping plans were prepared for approximately 107 km of roadway within Kananaskis Country.

LOCATION STUDY SERVICES SECTION

Studies are undertaken by the Location Study Services Section to analyse new highway and bridge locations, and field surveys are conducted for additions or revisions to the highway system. During the reporting period, studies were completed on 59 projects, a further 82 projects being under way. Twenty of those projects, collectively totalling 148 km, involved field surveys. Surveys included:

Highway 16, Manville to Innisfree	15 km
Secondary Road 541, Forest Reserve Boundary to Junction Highway 22	34 km
Highway 16, Medicine Lodge to west of Marlboro	8 km
Sunchild Road at Brewster Creek crossing	7 km
Eight projects within Kananaskis Country	57 km

ROADSIDE DEVELOPMENT SECTION

The Roadside Development Section is responsible for departmental comments on subdivision referrals pursuant to the Planning Act 1977, and for administration of the development control function of the Public Highways Development Act along primary highways throughout the province.

Planning documents, including annexation proposals and area structure plans, are reviewed. The section's work involves extensive liaison with other government departments, the public sector, and the department's regional district offices.

During the reporting period, the section issued 440 development permits, and undertook 883 subdivision reviews and 66 annexation reviews.

The section also issued 873 permits for utilities, in these categories:

Alberta Government Telephones	288
Oil and gas lines	233
Power lines	259
Sewer and water lines	74
Oil and gas well sites	12
Television cables	7
	873

PHOTOGRAMMETRIC SERVICES SECTION

The Photogrammetric Services Section obtains aerial photography for use in producing general and detailed mapping and mosaics. Precise control surveys are carried out to assist in mapping, and for establishing accurate positions and data for route segments.

During the reporting period, 30,800 contact prints of aerial photography were obtained from Alberta Energy and Natural Resources for use in various studies and reports. In addition, the following were obtained or prepared:

New aerial photography	4 370 km
Orthophoto mosaics	1 430 km
Mosaics	4 745 km
Miscellaneous mosaics	5 313 km
Seventeen control survey projects	562 km
Photogrammetric contour mapping	1 019 km^2

TECHNICAL SERVICES SECTION

The Technical Services Section provides drafting and related services for location and design studies. Also, mosaic-profile sheets and strip mosaic sheets are prepared for use in construction and inventory purposes throughout the province.

RESEARCH & DEVELOPMENT BRANCH

M.J. DOLINSKY
Executive Director

The role of the Research and Development Branch is to act as an information centre; to co-ordinate, sponsor, undertake, and publish research pertinent to transportation; and to arrange technology transfer where applicable. Emphasis is placed on state-of-the-art and evolving technologies which would aid the department in fulfilling its primary mandate to provide, operate, and maintain efficient and cost-effective highway systems. The branch is also responsible for the Transportation Library.

During the reporting period, the branch initiated 27 projects, in addition to carrying over seven from the previous year. Of the total 34 projects, 10 were completed in 1981-82, the balance being now at various stages of completion, depending on their complexity. The projects, grouped into six subject categories, included:

Road materials and techniques

- ☐ Evaluation of the use of sulphur-extended asphalt pavement for overlay on Highway 16 east, including the investigation of environmental and occupational safety hazards.
- ☐ Evaluation of sealers for cracks in pavements and for sealing loop detectors.
- ☐ Feasibility of recycling certain asphalt pavements in the near future.
- ☐ Effect of terrazyme and lime on soil stabilization.
- ☐ Use of new high-tensile strength geotextile materials for erosion control and embankment reinforcement.
- ☐ Applicability of non-explosive demolition agents.

Road maintenance

- ☐ Evaluation of calcium lignosulphonate as a stabilizer and dust abatement agent for gravel roads.
- ☐ Effect of treating sand with calcium chloride for winter maintenance of highways.
- ☐ Use of high-tensile strength polymers, because of their very light weight and strength, as alternatives to conventional wooden snow fences.

Transportation safety

- ☐ Evaluation of temporary reflector pavement markers for road centreline delineation through construction detour zones, and also of snowplowable pavement markers for year-round operation.
- ☐ Effect of a new "no passing zone" pennant sign on Highways 16 east and 43.
- ☐ Cost-effectiveness and durability of fibreglass guide posts for highway applications.
- ☐ Effect of using portable rumble strips as warning devices prior to construction zones.
- ☐ Feasibility of various types of runaway truck arrester system concepts for highways.
- ☐ Improving visibility of snowplows to the motorist.

Adaptation of advanced electrical/electronic technology

- ☐ Evaluation of television guidance for highway paint machines.
- ☐ Evaluation of microcomputer-driven highway inventory gathering system capable of operating at highway speeds.
- ☐ Suitability of vehicle-mounted electronic distance-measuring systems for survey-type applications.
- ☐ Evaluation of a hands-free intercom system for paint machines.

Mechanical equipment improvement

- ☐ Evaluation of several gas and diesel preheaters for cab heating of vehicles and paint preheating of paint machines.
- ☐ Evaluation of non-abrasive coating for boxes of sand and for gravel trucks.

Fuel economy and energy conservation

- ☐ Evaluation of two fuel economy devices on departmental trucks, as well as conversion of six units to propane.
- ☐ An energy and cost audit on the sulphur-extended asphalt overlay on Highway 16 east.

Several co-operative projects were also undertaken with the Roads and Transportation Association of Canada, the Alberta Research Council, and Alberta-based industries. These included:

- Development of a prototype advanced electric motor for transportation applications.
- Analysis and feasibility study of a 1,000-ton transporter for highway and off-highway use.
- Development of a dollywheel support system for the transport of wide mobile homes on provincial highways.
- Major investigation into the influence of axle spacing on pavement deflections, strains and potential pavement damage.

The Transportation Library continued to provide technical information services to the department, as well as to other government agencies, students and members of the general public seeking information on transport-related matters. The library contains approximately 8,000 books, 4,800 technical reports, and 400 periodical titles.

During the year, the library staff responded to nearly 5,000 requests for information, ranging from quick factual questions to in-depth research-oriented requests. Fifty-five literature searches were conducted on various on-line bibliographic data bases in North America.

Major library projects for the year included a computer-produced index to technical report series, purchase of a subscription to the reports of the United States Federal Highway Administration in microfiche format, and the duplication of the card catalogue in the Transportation Safety Branch library for use in the main Transportation Library.

TRANSPORTATION SAFETY BRANCH

R.R. HOGG
Director

The mandate of the Transportation Safety Branch is to reduce motor vehicle crashes in Alberta. The branch's three sections — Operator Improvement, Traffic Operations, and Planning and Administration — are responsible for coordinating the provincial government's traffic safety programs.

Measured in terms of vehicle kilometres travelled (a more accurate indicator of traffic activity than population numbers), Alberta had the fourth highest fatality rate and the fifth highest injury rate among provinces in Canada during 1981. In Alberta, the year saw 119,891 traffic collisions reported, in which 25,121 people were injured and 700 killed. Approximately 86 per cent (103,033) of the traffic collisions involved property damage only.

However, the total of collisions is more than just numbers; it involves three primary elements: the driver, the vehicle, and the roadway. Through research, investigation, inspection, and educational activities, the branch develops and implements programs aimed at these three elements in order to reduce the collision rate and improve safety on Alberta's highway system.

OPERATOR IMPROVEMENT SECTION

The Operator Improvement Section carries out a wide variety of educational programs, and performs a number of related administrative functions within the branch.

One of the section's main areas of endeavour is public education. This involves making presentations or manning displays in schools, industrial settings, malls and fairs. During the reporting period, safety education representatives from the section made 1,087 presentations at 751 schools. In addition, they spoke to 417 non-school groups, and talked to many thousands of shoppers and visitors to displays.

Safety education representatives also held 45 orientation sessions for Alberta Transportation employees, and spoke at 160 programs for impaired drivers. The section's involvement in programs for imparied drivers ceased in the fall of 1981, when the Alberta Alcoholism and Drug Abuse Commission reorganized its delivery of these programs.

Besides general education programs, the section runs specialist seminars for the school bus and driver training sectors. In the 1981-82 fiscal year, 63 school bus supervisors and 67 driving school operators attended such specialist seminars.

Driver counsellors in the section, whose job includes providing assistance to drivers in the Edmonton area involved in collisions, and collecting relative crash data, interviewed 257 drivers who were involved in two or more collisions in the previous year.

Administratively, the section tests driving instructors, and licenses and monitors instructors and driving schools. During the reporting period, the section issued 878 instructor licenses and 105 school licenses, and monitored 36 lecture and 115 driving school events.

In conjunction with its involvement in driving schools, the section administers the driver education incentive program. During the year, 19,504 new drivers each received a certificate entitling them to an insurance discount.

TRAFFIC OPERATIONS SECTION

The Traffic Operations Section is responsible for those aspects of transportation safety and traffic operations which are related to vehicles and roads. These include:

- ☐ establishing standards and monitoring the condition of vehicles;
- ☐ investigating vehicular crashes; and
- ☐ studying traffic operating characteristics so that highway design, construction and maintenance standards accurately reflect current public requirements.

The section's vehicle systems staff is responsible for the inspection of commercial vehicles and the monitoring of stations and mechanics licensed to inspect buses. During the reporting period, random inspections were made of 3,687 trucks and trailers. These inspections were carried out at roadside locations, at vehicle inspection stations, and at company terminals. In addition, 2,221 visits were made by motor vehicle examiners to the 688 licensed inspection stations and 1,391 licensed inspection mechanics in the province.

Detailed examinations were carried out on 159 vehicles involved in crashes, the purpose being to aid branch crash investigators determine the condition of a vehicle before a crash, and the possible relationship of its mechanical condition to the crash.

Vehicle systems staff conducted 80 training seminars for fleet maintenance supervisors, school bus transportation supervisors and drivers, to acquaint them with standards and regulations, as well as to assist them with their equipment problems. Special training courses were developed and presented to a number of Royal Canadian Mounted Police and Highway Patrol Division officers to help them in the enforcement of relevant sections of the Highway Traffic Act and the Alberta Motor Transport Act.

Vehicle systems staff were also involved in the development of new standards for school buses, mechanical fitness criteria for trucks, and evaluations of applications for exemptions from existing standards. These projects required close liaison with officials in other provinces and states, truck associations, the Canadian Standards Association, and the Canadian Conference of Motor Transport Administrators.

Investigations into motor vehicle crashes are carried out under two programs. The first program consists of a broad-based identification and treatment of roadway hazards. This involves the continuous review of motor vehicle collision reports and a detailed review of some 1,100 locations where potential problems have been identified. In addition, 350 locations received further analysis from which treatments were applied to combat further crash occurrence.

The second crash investigation program involves the detailed investigation of selected motor vehicle crashes to determine driver, roadway, and vehicle factors. During the reporting period, 60 crashes, most of which involved fatalities, were studied. Data collected in these investigations is used to develop both immediate and long-range countermeasures. As part of this program, all incidents involving school buses are reviewed. School buses were involved in

420 crash incidents during the year; eight of these crashes warranted in-depth study.

The study of traffic operating characteristics is aimed at ensuring safe and efficient traffic flow. Section staff conducted studies of operating conditions at some 170 locations on both the primary highway and municipal road systems during the reporting period. Twelve new traffic control signals and two pedestrian crosswalk signals were installed. Three existing traffic control signals were revised to reflect changes in traffic patterns.

The section co-ordinates improvements to railway crossings and, during the year, 110 applications to the Canadian Transport Commission were dealt with, 56 of which involved the installation of automatic protection signals. Projects involving railway crossings often take more than one year to complete, consequently not all of the projects were initiated or completed in the reporting period.

Speed limits on primary highways are monitored by the section, changes being made at 20 locations.

PLANNING AND ADMINISTRATION SECTION

The Planning and Administration Section is responsible for monitoring and analysing traffic safety trends. The section analyses causal factors in traffic collisions, evaluates the effectiveness of countermeasures, and is involved in all aspects of the identification, development, planning, monitoring and evaluation of safety programs.

During the reporting period, at the request of the Ministers' Traffic Safety Advisory Committee, the section prepared a plan for a five-year highway safety management program. The purpose of the plan, which has been approved in principle, is to explore the state-of-the-art safety strategies available to decision makers, program managers and safety professionals. Program areas identified as having high-priority rating included occupant restraint usage, impaired driving, improvement of driver abilities, child safety, special road user class safety, roadside spot improvement, and vehicle inspection.

The section maintains the branch's traffic data system. Data on all reportable motor vehicle collisions (approximately 120,00 in 1981-82) are collected, processed and analysed. This information is used within the branch to identify highway safety problems and to plan countermeasures and safety programs. Statistics and information on traffic collisions are also distributed to interested groups and individuals outside the branch.

In a continuing effort to identify traffic safety problems, field surveys were conducted at 328 locations. Of these surveys, 288 recorded vehicular and pedestrian movements at intersections. Forty-four studies were conducted at railway crossings, time-lapse filming being used at 14 locations to observe specific problems.

A further 423 studies were conducted on vehicle speeds. Of these, 299 were part of the section's annual monitoring program, the remaining 124 being conducted to supply information of use in decisions affecting traffic safety engineering.

REGIONAL TRANSPORTATION DIVISION

PROGRAM MANAGEMENT BRANCH

OPERATIONS BRANCH

PROPERTY SERVICES BRANCH

OCCUPATIONAL HEALTH AND SAFETY BRANCH

REGIONAL DIRECTORS

REGIONAL TRANSPORTATION DIVISION

H.M. ALTON
Deputy Minister

The Regional Transportation Division is responsible for the management of construction and maintenance of the provincial transportation systems. These responsibilities are managed through four administrative branches: Program Management, Operations, Property Services, and Occupational Health and Safety; and through six regional directors located in strategic centres in the province. Specifically, the division is responsible for the management and field delivery of the following program elements:

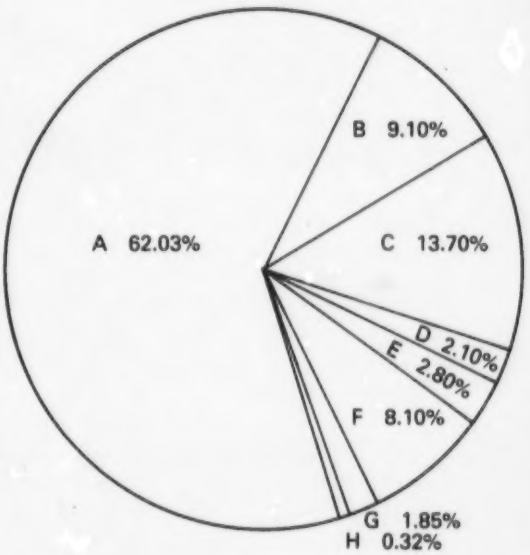
- Regional administration
- Construction and maintenance of primary highways
- Construction of approach roads
- Construction of roads to provincial parks
- Construction of vehicle inspection sites
- Construction of secondary roads
- Construction and maintenance of forestry roads
- Construction and maintenance of improvement district roads
- Construction and maintenance of bridges on primary highways and on rural-local roads
- Reconstruction and repair of irrigation bridges
- Improvement of resource roads
- Construction of special projects
- Pavement rehabilitation
- Construction of campsites and rest areas
- Maintenance and operation of ferries
- Maintenance and operation of forestry airstrips
- Grants to counties and municipal districts
- Grant to Special Areas
- Town and Village Streets Assistance Program
- Public Transportation Operating Assistance Grant
- Improvement District Trust Account Program
- Construction of provincial and community airports
- Maintenance and operation of provincial airports
- Air transportation policy
- Management of the Provincial Airport Development Program
- Maintenance and operation of provincial airstrips
- Property acquisition

In this reporting period, the extended period of good fall weather made it possible to complete construction programs as planned.

In line with the government's policy to provide Albertans with employment during the current slowdown in the economy, particularly in the energy sector, the division administered an Economic Stabilization Program which provided work for approximately 1,000 units of heavy construction equipment. Under this program, improvements were made to 1 450 km of roadways. At the same time, the Transportation Winter Works Program was expanded to provide greater employment to the trucking industry, to gravel crushing operators, and to heavy equipment owners and operators. A total of 2,002 truckers participated in this program.

An analysis of Regional Transportation's total expenditures by major categories of activity is shown in the box on this page. Details of the work undertaken by Regional Transportation's branches are reported on the pages which follow.

Regional Transportation Expenditures



A. Major construction of primary highways; secondary, approach, park, and resource roads; pavement rehabilitation; and special projects — 62.03%
B. Maintenance of highways and ferries — 9.10%
C. Construction and maintenance of improvement district roads — 13.70%
D. Construction and maintenance of airports and airstrips — 2.10%
E. Construction and maintenance of bridges — 2.80%
F. Grants to counties, municipal districts, towns, villages, and Special Areas — 8.10%
G. Regional administration — 1.85%
H. Other — 0.32%

THE SIX REGIONS AND THEIR BOUNDARIES

PROGRAM MANAGEMENT BRANCH

J.A. GLOWACH
Director

The responsibilities of the Program Management Branch include the management of all construction programs, and the development and management of all grant programs. This work is handled by two sections: Program Management and Municipal Services.

PROGRAM MANAGEMENT SECTION

The Program Management Section is responsible for the management and delivery of the following programs:

— Construction of primary highways (including the twinning program for Highways 1 and 16)
— Construction of approach roads
— Construction of roads to provincial parks
— Construction of vehicle inspection sites
— Construction of secondary roads
— Improvement of resource roads
— Special projects
— Pavement rehabilitation
— Construction of provincial and community airports
— Construction of roads in Kananaskis Country
— Crushing under the Transportation Revolving Fund and under the Transportation Winter Works Program

To ensure delivery of the construction programs, the section co-ordinates and schedules interdepartmental engineering activities, and liaises with outside agencies on a continuing basis.

Additional responsibilities include program evaluation, analysis of industry capability, and provision of support services to the Regional Transportation Division.

Construction of Primary Highways
Element B2100

The main emphasis of the primary highways construction program continued to be the upgrading of older highways, and the strengthening of existing pavement structures to meet the increasing demands and higher volumes of industrial, commercial, commuter and tourist traffic. Grading and paving continued on highways added to the primary highway system in recent years.

Multilaning of the highly congested routes leading into major cities continued to be a priority. Construction on such routes was undertaken during the reporting period on:

Highway 1	Redcliff to Medicine Hat and Brooks Interchange
Highway 2	North of Leduc to north of Nisku
Highway 2	Edmonton to St. Albert
Highway 11	Red Deer east
Highway 16	Gainford to west of Wabamun
Highway 16X	North of Stony Plain to west of Edmonton

Construction of a new west connection to the Peace River Bridge in the Town of Peace River commenced on June 12, 1981. Some stabilization of the slide area on the east hill was also undertaken.

Street improvements were made to primary highways through 14 cities, towns and villages. The work was directed and supervised by consulting engineers working for the respective city, town or village under the terms of agreement with the department. Two projects were left to be completed in 1982-83.

During the reporting period, construction was completed on 1 926.28 route kilometres of primary highway. This included the extension of new paved surfaces on 217 km.

Expenditures on primary highway construction totalled $192,422,143. The different types of work undertaken, by kilometre, were:

	Regular Program	Twinning Program (Hwys 1 & 16)
Grade	248.02 km	15.58 km
Gravel	20.74 km	—
Granular base course	282.05 km	15.58 km
Cement stabilized base course	132.01 km	—
Asphaltic surface	364.18 km	6.72 km
Preliminary engineering	443.03 km	108.22 km
Dust abatement	28.43 km	—
Clearing, miscellaneous	43.55 km	—
Seal coat	556.54 km	—
Street improvement	11.39 km	1.35 km
	2 129.94 km	147.45 km

Construction of Approach Roads
Element B2400

Paving continued of approach roads to towns and villages located some distance from the main highway routes. Access projects to 19 communities were under way during 1981-82. One of these projects was carried over from 1980-81. Construction affected 19.60 route kilometres; expenditures totalled $1,109,363. The different types of work undertaken, by kilometre, were:

Grade	2.00 km
Granular base course	3.05 km
Cement stabilized base course	1.55 km
Asphaltic surface	7.54 km
Preliminary engineering	1.20 km
Seal coat	7.60 km
	22.94 km

Construction of Roads to Provincial Parks
Element B2500

A total of 48.80 route kilometres of road was constructed to provincial parks for an expenditure of $2,759,948.

Grading was completed to Carson Lake and Hilliard's Bay provincial parks. Base course was completed to Gooseberry Lake and to Lesser Slave Lake provincial parks. Pavement

was completed to Long Lake and to the Dinosaur provincial parks.

The different types of work undertaken, by kilometre, were:

Grade	12.59 km
Granular base course	21.02 km
Asphaltic surface	17.56 km
Seal coat	11.17 km
	62.34 km

Construction of Vehicle Inspection Sites
Element B2600

Element B2600 provides funding for the construction of entrance, exit, bypass lanes and parking areas at weigh scale locations.

Major construction was carried out at the Acheson, Balzac, Grande Prairie, Leduc, Radway, and Whitecourt sites. Land was purchased for two additional locations, and preliminary engineering was undertaken at three sites. Expenditures for the year totalled $1,241,474.

Construction of Secondary Roads
Element B3100

Improvements were undertaken on 1 697.39 route kilometres of secondary road. Expenditures totalled $81,845,467.

Heavy demand for improvements to the secondary road (SR) network continued. During this reporting period, grade improvement continued to be a priority and increased by 21.2 per cent over the previous year. Asphaltic surfacing was carried out on 24 major projects, the following five links between important centres being completed:

SR 635	Junction Highway 43 (Onoway) to Fort Saskatchewan
SR 794	Junction Highway 16X to Westlock
SR 817	Junction Highway 24 to Strathmore
SR 857	Vegreville to Junction Highway 45
SR 887	Orion to Seven Persons

The different types of work undertaken, by kilometre, were:

Grade	466.40 km
Gravel	30.14 km
Granular base course	241.52 km
Cement stabilized base course	48.30 km
Asphaltic base course	40.74 km
Asphaltic surfacing	298.58 km
Preliminary engineering	760.11 km
Dust abatement	81.27 km
Clearing, miscellaneous	70.76 km
Seal coat	25.65 km
Street improvement	4.33 km
	2 067.80 km

Improvement of Resource Roads
Element B8100

The demand continued for improvements to roads carrying resource traffic. High-standard roads were constructed to allow large transport trucks to operate on a year-round basis.

Improvements were made on 588.66 route kilometres of road for a total expenditure of $33,466,511. The different types of work undertaken, by kilometre, were:

Grade	238.74 km
Gravel	7.50 km
Granular base course	89.90 km
Cement stabilized base course	21.52 km
Asphaltic base course	34.42 km
Asphaltic surface	117.50 km
Preliminary engineering	127.25 km
Dust abatement	62.36 km
Clearing, bridges, miscellaneous	100.07 km
Street improvement	2.70 km
	801.96 km

Six major bridge structures were constructed on road projects funded under this program.

Special Projects
Element B3400

Under the Special Projects program, $5,031,794 was spent on improvements to Highway 67. Base course was completed from south of Lily Creek to the Junction of SR 754. Grading was undertaken from the Wabasca River to north of Senex Creek during the fall and winter of 1981-82. The different types of work undertaken, by kilometre, were:

Grade	19.41 km
Granular base course	14.03 km
Clearing	16.00 km
	49.44 km

Pavement Rehabilitation
Element B9100

In recent years, increased traffic volumes and heavier loading have greatly increased the severity of stress on the provincial highway network. As a result, many kilometres of older pavement are in need of strengthening. To protect the existing investment in these highways, a program of pavement rehabilitation was initiated. In this, the second year of this program, pavement rehabilitation was carried out on 373.24 km of highway at a total cost of $36,339,648.

An experimental project using sulphur-extended asphalt as a binder was carried out on Highway 16 from Junction Highway 21 to Elk Island Park.

Construction of Airports
Elements D2100 and D2200

Construction was under way on eight provincial airports during the reporting period. Total expenditure (Element D2100) was $3,812,787. Major construction took place at the Calgary Alberta Forest Service Base, and at the Edson, Lloydminster, and Manning airports. Lighting was installed at the Lloydminster and Swan Hills airports.

Construction and other improvements were undertaken at 25 community airports. Total expenditure (Element D2200) was $5,853,828. Major construction took place at 10 airports. Runway lighting was improved or installed at seven airports.

Details of construction, by airport location and by type of work, are shown in Schedule RT 1 on page 40.

MUNICIPAL SERVICES SECTION

The following major programs are planned, developed and managed by the Municipal Services Section:

— Construction and maintenance of improvement district roads
— Improvement District Trust Account Program
— Grants to counties and municipal districts
— Town and Village Streets Assistance Program
— Construction and maintenance of forestry roads
— Public Transportation Operating Assistance Grant Program
— Grant to Special Areas
— Engineering Support Program
— Maintenance and operation of forestry airstrips
— Development of Resource Road Improvement Program

In addition to these regular programs, an Economic Stabilization Program and a Transportation Winter Works Program were developed and managed by this section.

The Municipal Services Section is also responsible for monitoring and evaluating all these programs, and for providing necessary interdepartmental liaison and support services to the department's regions and districts.

Construction and Maintenance of Improvement District Roads Elements B3500, B6100, Appropriation 1555

The Economic Stabilization Program was implemented in the spring of 1981 to provide employment for Alberta's small operators of heavy oilfield equipment laid idle by the federal energy policy. The program provided $10,000,000 for road construction within the 15 provincial improvement districts. Favourable weather experienced during the summer permitted early completion of these construction programs. To take advantage of the remainder of the construction season, and to enhance the benefits to the oilfield contractors, an additional $5,000,000 was approved by Cabinet for road construction in the improvement districts.

The Economic Stabilization Program also provided $10,000,000 for access and internal road construction on the Indian Reserves and Metis Settlements in the province.

A summary of expenditures under the regular grant for construction in improvement districts and for the Economic Stabilization Program is shown in Schedule RT 2 on page 41, under Element B3500. The regular construction grant portion included allocations of:

☐ $408,220 for the Improvement District Hamlet Streets Assistance Grant;

☐ $2,000,000 for new access to public lands recently opened up for settlement by the Public Lands Division of Alberta Energy and Natural Resources;

☐ $470,000 for road projects required in conjunction with the Land Tenure Secretariat Program in isolated communities;

☐ $4,238,906 for local road winter construction, surface treatment gravel stockpiling and crushing under the Transportation Winter Works Program;

☐ $1,442,972 under the department's Cold Lake Special Construction Program.

During the reporting period, a total of $14,508,651 was expended on summer and winter maintenance tasks for all improvement district roads under the department's jurisdiction, including public roads through Indian Reserves. A summary of these expenditures is shown in Schedule RT 2 on page 41, under Element B6100. In addition, $2,040,015 was expended under Element B6100 for maintenance, gravel, stockpiling and crushing under the Transportation Winter Works Program.

Trust funds provided to the department by Alberta Municipal Affairs totalled $14,674,413, their disposal being shown in Schedule RT 2 on page 41, under Appropriation 1555.

The different types of work undertaken on improvement district roads, by kilometre, were:

Grade	151.93 km
Gravel	3 856.63 km
Dust abatement (oiling)	14.82 km
	4 023.38 km

Alberta Municipal Affairs approved a further $672,793 for transportation projects from the Municipal Debt Reduction Fund. The expenditures in each improvement district are listed below:

Improvement District	
1	$ 50,000
7	177,998
10	335,639
14	33,669
16	3,051
18	24,654
20	47,782
	$672,793

Grants to Counties and Municipal Districts Element B4200

A total of $33,969,671 was expended on capital road improvements under Element B4200. The expenditures within each municipality are shown in Schedule RT 3 on page 42. Included in this total is an expenditure of $9,400,000 under the County and Municipal District segment of the Economic Stabilization Program. (The Economic Stabilization Program provided $600,000 for Special Areas and this amount was appropriated in element B4200.)

The breakdown of Element B4200 into the categories of expenditures was as follows:

Regular Road Grant	$18,465,433
Economic Stabilization Program	9,996,219*
Special Grants	4,546,752
Hamlet Streets Assistance Grant	811,267
Municipality of Crowsnest Pass (Transition Grant)	150,000
	$33,969,671

* Includes $600,000 expended by Special Areas for Economic Stabilization Program projects.

Town and Village Streets Assistance Program Element B4400

Ninety-six towns, villages and summer villages benefited from the funds provided by the Town and Village Streets Assistance Program. A total of $8,021,460 was expended on projects such as grading and gravelling, storm sewer, curb and gutter, base course and surface course paving, sidewalks and street oiling.

The reporting period was the fourth year of the five-year program. The payments made to the 96 municipalities are shown in Schedule RT 4 on page 43.

Construction and Maintenance of Forestry Roads Element B3200

A total of $3,226,091 was expended during this reporting period on the province's 4,000 km forestry road system. The projects carried out were determined through consultation with the Alberta Forest Service (AFS) of Alberta Energy and Natural Resources. The AFS listed its priority improvement requirements in the 10 designated forest areas, which are located in improvement districts.

Expenditures on forestry road improvements, by improvement district, are shown in Schedule RT 2 on page 41, under Element B3200.

Engineering Support Program Element B4100

The Engineering Support Program was introduced during this reporting period to assist counties, municipal districts and Special Areas with engineering services. As more and more of these jurisdictions were planning better standard roadways, the requirement for engineering services increased.

The grants are based upon the level of the department's regular road construction grant to each jurisdiction, and are to assist with the engineering on regular road grant projects. The total expenditure for this program was $638,006. The specific expenditures are shown in Schedule RT 5 on page 44.

Public Transportation Operating Assistance Grant Element F3200

This reporting period was the third year of the six-year Public Transportation Operating Assistance Grant for transportation services to senior citizens, disabled and handicapped persons. Initially, the program's grant of $2 per capita was provided only to towns. This policy was expanded in 1980-81 to include villages, counties, municipal districts, improvement districts, and Special Areas. During the current reporting period, grant funds were allocated as follows:

Towns	$ 602,248
Villages	91,920
Counties	433,806
Municipal districts	197,814
Improvement districts	133,894
Special Areas	12,522
	$1,472,204

Grant to Special Areas Element B4300

The department's annual grant to the Special Areas was $1,377,000. These funds were used for local and secondary road capital construction projects within Special Areas 2, 3 and 4.

In addition to this regular grant, the Economic Stabilization Program provided $600,000 to the Special Areas. This expenditure is also referred to under the Grants to Counties and Municipal Districts (Element B4200) section of this report, and is recorded in Schedule RT 3 on page 42.

Maintenance and Operation of Forestry Airstrips Element D3200

There are 73 forestry airstrips located in the provincial forest areas. These airstrips are mainly used to support fire-fighting operations.

During this reporting period, 53 of these airstrips required maintenance to ensure that they were in suitable condition to permit access by air support to fire-fighting operations. The details of the $188,498 expenditure on these airstrips are shown in Schedule RT 6 on page 45.

OPERATIONS BRANCH

E. BELSHEIM
Director

The Operations Branch is responsible for co-ordinating and monitoring primary highway maintenance, bridge maintenance, and provincial airport development programs. It is also responsible for the management of campsite and ferry construction programs. Specifically, the major areas of responsibility of the branch are:

— Maintenance of primary highways
— Construction of campsites and rest areas
— Maintenance and operation of ferries
— Construction and maintenance of bridges on primary highways and on rural-local roads
— Reconstruction and repair of irrigation bridges
— Air transportation policy
— Management of the Provincial Airport Development Program
— Maintenance and operation of provincial airports
— Administration and operation of nine construction camps

The branch comprsies three sections — Maintenance Operations, Bridge Services, and Aviation — which are charged with the delivery of services and programs.

MAINTENANCE OPERATIONS SECTION

The Maintenance Operations Section's mandate includes the establishment and monitoring of standards of primary highway maintenance; the equitable distribution of primary highway maintenance allocations; the overall co-ordination of programs involving rest areas, campsites, the ferry system, and the department's maintenance yards; and the supervision and direction of nine construction camps. In addition, during the current reporting year, the section was responsible for co-ordinating all trucking requirements for completion of the Transportation Winter Works stockpiling program.

Maintenance of Primary Highways Element B5100

Maintenance of primary highways accounted for an expenditure of $51,011,971. The different types of maintenance, by kilometre, were:

	Gravelled	Oiled	Paved
Primary highways	1 460.48	1 354.61	11 147.84
Access roads	19.08	46.98	230.10
	1 479.56	1 401.59	11 377.94

Details of expenditure under Element B5100, by region and district, are shown in Schedule RT 7 on page 46.

Erosion Control Program

In total, 158 erosion control projects were completed. Approximately 15,620 acres of right-of-way and borrow areas were seeded to grass and fertilized along primary highways, secondary roads, resource roads, improvement district and local roads, at airports and in Kananaskis Country. Also, 1,369 trees were planted in Kananaskis Country. Fifteen shifts were lost due to adverse weather.

Signing Program

Signing was completed on all construction projects, including three major interchanges. Several major detours were signed for projects by other branches.

In total, 1,100 signs, including 74 major ground-mount signs, complete with break-a-way bases, were installed on existing and new projects. This total included refurbishing 25 major overhead sign structures. The installation of traffic signals and crosswalk signals was completed at 20 intersections.

Guardrail Program

A major program to raise substandard guardrail to the appropriate height was continued. This included raising and realigning 70 424 m of existing guardrail, while an additional 47 490 m of new guardrail was installed. Approximately 10,200 edge delineators were installed in conjunction with the work.

A test section of median guardrail, 2.6 km in length, was installed on Highway 2 south of Bowden. An evaluation is now being made of its effectiveness in preventing errant vehicles from crossing the median into oncoming traffic.

Seal Coating Program

Seal coat camps applied seal coating on 556.54 km of primary highway. In addition, 97.78 km of seal coat was applied on the province's oiled primary highways. The camps also undertook seal coating on 92.74 km of secondary, approach, and park roads.

The camps were again involved in seal coating high-density bridge decks. Twenty-seven bridge decks were treated in conjunction with regular operations.

The sum of $1,371,472 was expended for the crushing of material required for seal coating of the primary highway system. An additional $245,216 was spent for washing a portion of this crushed material.

The Provincial Airport Development Program provided $187,253 for seal coating the runways at the Claresholm and Innisfail airports. A test section using rubberized asphaltic seal coat was applied on Highway 36 north of Hanna. Initial results indicate a partial success. However, further evaluation and documentation is required before general use of the coating.

Surfacing and Base Course Program

The surfacing camp paved 32.2 km of primary highway at a cost of $3,220,219. Major paving projects were undertaken on 18.4 km of Highway 2 from Rycroft to Woking and on 12.5 km of Highway 16 immediately east of Edson. Also, paving was undertaken on the Edson Airport, the approach road into Woking, and a short section of roadway on Secondary Road 748 in the Town of Edson.

The base course camp completed 14.0 km of base course work on Highway 47 from south of Weald to north of Erith.

Also, base course construction was completed on 17.0 km of Secondary Road 733 from Bezanson to Teepee Creek.

Maintenance and Operation of Ferries Element B6300

In the 1981-82 fiscal year, the Operations Branch was responsible for the operation and maintenance of eight ferries throughout the province. In addition, Alberta Transportation shared the cost of operating and maintaining the Meridian Ferry, north of Lloydminster, with the Province of Saskatchewan.

The total expenditure of $832,893 on ferry operation and maintenance was distributed as follows:

Finnegan, Red Deer River	$ 80,686
Bleriot, Red Deer River	86,967
Crowfoot, Bow River	74,632
Meridian, Lloydminster	39,273
Berrymoor, North Saskatchewan River	63,849
Rosevear, McLeod River	58,629
Klondyke, Athabasca River	90,786
Shaftesbury, Peace River	149,834
La Crete, Peace River	188,237
	$832,893

Construction of Campsites and Rest Areas Element B2300

Regional Transportation continued its program of upgrading existing campsites. During the reporting year, plans were initiated to construct a major rest area on Highway 16 east of Edson. Property for this facility was purchased, and an architectural firm engaged to prepare conceptual drawings. In addition, 66 campsites were upgraded, and one truck turn-out constructed on Highway 41.

Expenditures under Element B2300 totalled $864,905. Details of these expenditures, by district and for individual sites, are shown in Schedule RT 9 on page 47.

BRIDGE SERVICES SECTION

The Bridge Services Section is responsible for the co-ordination of bridge maintenance and standard bridge construction programs, and for associated budget requirements. The section is also responsible for providing overall engineering, technical direction, and operating standards for the regional bridge staff, who are responsible for construction of standard bridges on primary highways, secondary or local roads. They are responsible also for bridge maintenance throughout the province.

Construction of Standard Bridges Elements B2200, B3300, B3600

Each of the six regions undertook construction work on standard bridges on primary highways (Element B2200) and on rural-local highways (Element B3300). Expenditures on this work, by region, were as follows:

Region	Primary Highways (B2200)	Rural-local Highways (B3300)
1	$ 105,024	$ 725,553
2	219,572	749,056
3	308,488	638,984
4	41,805	639,657
5	385,139	746,351
6	221,793	1,161,259
Head Office	11,739	15,070
	$1,293,560	$4,675,930

Reconstruction and repair of irrigation bridges on rural-local highways, under a special program (Element B3600), was undertaken as follows:

Region	Rural-Local Highways Irrigation Bridges (B3600)
1	$1,125,058
2	255,175
	$1,380,233

Maintenance of Bridges Elements B5200, B6200

Maintenance was carried out on 192 bridge structures on the primary highway system (Element B5200). Of this total, 138 were major bridges, 38 were standard bridges, and 16 were large culverts serving in lieu of bridges.

Expenditures on maintenance of bridges on primary highways totalled $6,304,192. Of this sum, standard maintenance under the supervision of regional bridge staff accounted for $1,317,863, and major maintenance and rehabilitation initiated by Bridge Services accounted for $4,986,329. A breakdown of maintenance expenditures, by districts within the six regions, is shown in Schedule RT 7 on page 46, under Element B5200.

Regional Transportation is also responsible for maintenance of bridges on the local and secondary road systems in improvement districts. Assistance is given as requested to counties and municipal districts for more complex maintenance projects on these same classes of roads in their jurisdiction.

During the reporting period, maintenance was undertaken on 312 bridge structures on the local and secondary road systems (Element B6200). Of this total, 135 were major bridges, 168 were standard bridges, and nine were large culverts serving in lieu of bridges. The work was carried out under the supervision of the bridge staff in each of the six regions. Total expenditures under Element B6200 were $2,390,918. A breakdown of these expenditures, by district within the six regions, is shown in Schedule RT 7 on page 46, under Element B6200.

AVIATION SECTION

The Aviation Section is responsible for overall management of the Provincial Airport Development Program.

The section is also responsible for co-ordinating the operation and maintenance of 14 provincial special purpose airports. Each airport is operated by a full-time supervisor, who

reports to headquarters through the director of the region in which the airport is located. The functions of these airports are to provide key bases in support of Alberta Forest Service forestry protection and fire bombing activities, and to provide facilities for general/commercial aviation operations. This has enabled carriers to provide scheduled commuter service to these locations.

In addition, the section is responsible for the civilian terminal complex at Medley (CFB Cold Lake), and for a non-directional radio beacon at the St. Paul community airport.

The section's expenditures on these activities during the reporting period totalled $1,743,699 (Element D3100). The expenditures, by airport, were as follows:

Cooking Lake	$ 50,494
Edson	92,251
Fort Chipewyan	254,793
Fort Vermilion	9,258
Grande Cache	119,294
High Level	181,546
Jasper/Hinton	102,112
Lac La Biche	115,289
Lloydminster	102,730
Medley (civilian terminal)	37,630
Pincher Creek	114,526
Rocky Mountain House	96,254
Slave Lake	154,593
St. Paul (beacon)	141
Swan Hills	139,773
Whitecourt	173,015
	$1,743,699

During the year, meetings were held with local officials in many communities to provide information on the Provincial Airport Development Program, and on the establishment of local airport commissions. Several applications were received requesting assistance for airport development or improvement. Site selections and evaluations were carried out at various locations; these are now in the planning stages for future development.

Liaison was maintained with aviation-related industries and organizations. The Aviation Section was represented on bodies such as the Edmonton Area Air Services Commission, the Transportation Development Authority of Calgary, the Alberta Aviation Council, the Air Transport Association of Canada, the Canadian Aeronautics and Space Institute, and the International Northwest Aviation Council.

Background information, technical advice, and position papers for senior management on a wide variety of subjects were provided as part of departmental initiatives, or in response to activities of federal officials in both the operational and policy areas of air transportation.

During the summer of 1981, official opening ceremonies were held for four community airports: Cold Lake Regional, Hanna, Swan Hills and Two Hills. In the fall, the official opening of the new Lloydminster Airport, operated by Alberta Transportation, was held.

Air Transportation Policy
Element D1200

During the 1981-82 fiscal year, $321,350 was expended on Air Transportation Policy. This expenditure covered the planning, programming and administration of aviation activities which come within the terms of reference of Regional Transportation.

PROPERTY SERVICES BRANCH

D.C. HOLMBERG
Director

The Property Services Branch is responsible for legal surveys of land acquired for transportation facilities, administration of the Municipal Government Act with regard to closure and/or cancellation of public roads, the leasing and disposition of surplus land and buildings, and co-ordinating the payment of grants in lieu of property taxes. The branch is also responsible for monitoring the agreements negotiated by regional property agents, and for helping them as required.

These responsibilities are divided into three operational categories: Legal Surveys and Conveyancing, Appraisal and Negotiation, and Compensation.

LEGAL SURVEYS AND CONVEYANCING

During the reporting period, 199 legal surveys were completed for land required for transportation facilities. Of these, 114 were carried out by staff land surveyors and 85 were carried out by land surveyors from the private sector.

The branch continued to receive and record titles to land acquired and to transfer land declared to be surplus. Here is a breakdown of survey requests and statistics on conveyancing:

Legal Surveys

Requests brought forward from 1980-81	450
Requests received during 1981-82	255
Performed or cancelled during 1981-82	199
Carried forward to 1982-83	506

Titles

Alberta Transportation parcel titles received	20
Notifications to registrars of abandonment of roads	468
Letters of abandonment	58
Municipal road closing by-laws received for approval	285
Site leases (surplus land)	121

APPRAISAL AND NEGOTIATION

The branch continued to provide advice and assistance to the regional property agents and appraisers. Agreements negotiated by the regional staff were checked for accuracy and acceptability of conditions prior to submission for payment of compensation.

In total, 1,467 agreements for the purchase of land were negotiated by the department's representatives. Seventy-six independent appraisals were performed for the department by qualified appraisers in the private sector.

Forty-six expropriations were started during the reporting period. Twenty of these were completed up to the possession stage and seven were settled by agreement. Two expropriations were abandoned and 17 remain outstanding. In addition, 42 agreements were obtained pursuant to the Expropriation Act. In total, 88 expropriations were started during the reporting period.

COMPENSATION

Compensation payments made for land purchased were as follows:

Primary highways and secondary roads	$ 8,582,464
District roads	902,275
Revolving Fund	9,510,845
Airports	11,753
Land Purchase Fund	964,085
	$19,971,422

Approximately 50,000 title searches were made by staff located in the Land Titles Offices in Calgary and Edmonton. The searches were made to determine ownership for purposes of legal surveying and negotiation and to determine which encumbrances, if any, would affect the payment of compensation.

OCCUPATIONAL HEALTH & SAFETY BRANCH

C. KOPECK
Manager

The Occupational Health and Safety Branch is responsible for the co-ordination and management of the department's programs for occupational health and safety, vehicle/equipment safety, and construction zone safety. To discharge these responsibilities and achieve uniform and consistent safety standards throughout the department, the branch provides functional direction to six regional safety officers who are responsible for co-ordinating a wide variety of safety programs within their regions. The co-ordination of safety programs for other areas of the department is conducted out of branch headquarters. The branch is the primary liaison with the Personnel Administration Office, and with Workers' Health, Safety and Compensation.

During the reporting period, progress continued in the implementation and maintenance of the department's occupational health and safety programs. Assistance and consultative services were provided to managers, supervisors, and workers in support of their accident-prevention activities in many areas, some of which include:

— Safety education and training
— Occupational health and safety legislation
— Personal protective equipment
— Safety inspections/surveys
— Emergency evacuation
— Accident investigation and reporting
— Statistical data
— Environmental hazards
— Occupational health and safety committees
— Health education
— Health hazards surveys
— Pre-commencement project meetings
— Traffic accommodation standards and procedures
— Audiometric screening
— Pulmonary fibrosis testing
— Medical surveillance for employees exposed to lead

Here is a breakdown on the Workers' Compensation Board claims administered on behalf of the department for the fiscal year ended March 31, 1982:

Types of Claim	
Medical aid injuries	314
Lost-Time injuries	286
Fatalities	2
Hearing loss	1
Respiratory	1
Personal appliance	22
Recurrence	2
	628

Key components of the branch's accident prevention activities were formal safety education programs and on-the-job safety training.

Safety education programs run by the branch, with the number of participants in each program, were as follows:

First Aid	277
Defensive Driving, supplemented with vehicle and safety orientation	632
Professional Driver Improvement, supplemented with vehicle and safety orientation	20
Supervisor's Accident Prevention	106

The branch also ran training programs for members of Joint Work Site Health and Safety Committees.

On-the-job safety training included courses for flagpersons, on chainsaw operation and maintenance, on ferry operation and maintenance, and on crackfilling safety awareness. Other courses included crash response training for airport personnel, and safety practices for survey crews.

Funding is provided under Element B1100 for administration purposes in each regional and district office, as well as in each branch in Head Office. A breakdown of expenditures under Element B1100 during the reporting period is shown in Schedule RT 8 on page 46.

NO. 1
SOUTHERN REGION
C.A. LENDZION, Regional Director

A total of $52,213,000 was expended in the Southern Region during the reporting period. Generally favourable weather conditions prevailed, following a wet spring and early summer, enabling completion of the total construction program.

Special attention in maintenance programs was directed to the problems of drifting snow, particularly in the mountains and less populated areas around Medicine Hat. An improved communications system was established with the British Columbia Highways Department. This was designed to more effectively co-ordinate winter maintenance activity and provide safer movement for traffic through the Crowsnest Pass during particularly heavy storms.

Liaison with municipalities and with the construction industry was enhanced with the introduction of the Economic Stabilization Program; this stimulated the local economy by generating additional projects. Also, the Transportation Winter Works Program provided off-season employment to the trucking industry, as well as to operators of crushers and related heavy equipment. Both these programs were managed at the regional level.

Highlights of the major construction projects in the region were as follows:

- Improvements were made to a section of Highway 3 through the Crowsnest Pass, from west of Blairmore to Coleman. This work was part of an ongoing program to upgrade the existing route from Alberta to British Columbia.
- The twinning of the Trans-Canada Highway (Highway 1) from Medicine Hat to Redcliff was almost finished, only minor work remaining for 1982-83.
- A paved community airstrip, 1 060 m in length, was completed in Vauxhall.
- Improvements were made to Secondary Road 520 between Claresholm and Barons to provide a higher standard connection between Highways 2 and 23, major north-south routes.
- A culvert of innovative design, and with a span of over 8 m, was built to replace an old bridge structure at Trout Creek on Secondary Road 520. The significance of the project was that the cost of the culvert was considerably less than would have been the cost of erecting a standard bridge. Further, the project showed that, although the innovative culvert design is not suited to all locations, when used in future construction programs it should provide substantial time and cost benefits.

NO. 2
SOUTH CENTRAL REGION
B.W. KATHOL, Regional Director

The South Central Region experienced generally average weather conditions during the year, with a long dry fall permitting a considerable extension of the construction season.

The total expenditure in the region, including special Alberta Heritage Savings Trust funding for transportation facilities at the Kananaskis Provincial Park, was over $100 million.

Two large projects were started on the Trans-Canada Highway (Highway 1) in the Strathmore area. They will extend the four-lane divided highway from west of Strathmore to east of the junction with Highway 21. Engineering survey and property acquisition for further Trans-Canada Highway twinning were also put under way.

With the co-operation of the municipalities, counties, and Special Areas in the region, funds provided through the Economic Stabilization Program were used in the construction of a number of smaller road projects.

Construction was started on the Olds-Didsbury community airport. Other air transportation projects included improvements to the water bomber facility at the Calgary International Airport, runway extension at Hanna's community airport, and completion of new terminal facilities at Hanna and Drumheller.

Highway 41, the major north-south route on the eastern side of the province, was named The Buffalo Trail.

A pilot program, designed to improve roadside safety on primary highways, was undertaken in the Hanna district. The program involved removing all unnecessary approaches to highways, improving essential approaches by flattening the sideslopes, and relocating culverts. On Highway 9, from west of Drumheller to the Saskatchewan boundary, 215 approaches were removed, 15 relocated, and 592 improved. The program was considered to be successful and is expected to be continued.

Major highway projects in the region included:

- Completion of base and pavement construction on Highway 8 west of Calgary, and on Secondary Road 817, linking Strathmore to Highway 24 at Carseland.
- Base course construction on Highway 27 from junction Highway 27 eastwards, on Highway 36 from Highway 9 north, and on Highway 41 from Acadia Valley to Oyen. The Highway 41 project eliminated the last section without base course or pavement between Medicine Hat and Oyen.

NO. 3
CENTRAL REGION
D.J. BUSSARD, Regional Director

The 1981-82 construction season saw the largest volume of work ever undertaken in the Central Region, expenditures totalling more than $68.5 million. Rainy weather posed a problem for many projects during June, July, and September;

however, much work was accomplished in October, and some projects were extended into November.

The Economic Stabilization Program, completed with the co-operation of the counties and municipal districts, provided funds for construction of many miles of rural roads. The Transportation Winter Works Program also provided work for the trucking, crushing and heavy equipment sectors of the contracts industry.

The major accomplishment during the winter was the stockpiling of two million tonnes of gravel which would have otherwise been lost to the Dickson Dam reservoir.

Major primary highway projects included:

- Reconstruction and base course paving of Highway 13 and 2A east and north of Wetaskiwin;
- Base course paving on Highway 36 from the junction of Highway 12 to north of Castor;
- Grading of Highway 11 from Red Deer to the Joffre industrial area, of Highway 22 from the junction of Highway 13 at Buck Lake north 15 km, and of 16 km of Highway 51 from north of Eckville to north of Leslieville;
- Grading and oiling of Highway 53 from east of Donalda to west of Forestburg;
- Paving of Highway 22 between Caroline and Rocky Mountain House, and of Highway 41 from Consort north to Gooseberry Provincial Park;
- Street improvements on Highway 11A in Rocky Mountain House, and on Highway 12 at Rimbey.

Pavement rehabilitation projects included paving of Highway 2A from Penhold to Innisfail, of Highway 12 from south of Hoadley to north of Rimbey, and of Highway 26 from Camrose east 14 km.

Secondary road (SR) projects included:

- Grading of SR 590 from Highway 21 east 12 km (which completed construction of the secondary road to Big Valley and Highway 56), of SR 616 east of Mulhurst, of 6 km of SR 815 east of Lacombe, of SR 589 from the junction of Highway 56 east 16 km toward Byemoor, of SR 599 from the junction of Highway 41 west 16 km, of SR 834 north and south of Roundhill, and of SR 872 from Hardisty south 22 km;
- Regrading SR 861 in the Battle River Valley south of Galahad to tie in with a new bridge;
- Paving of SR 601 through Alix, of SR 795 east of Pigeon Lake from the junction of Highway 12 north 16 km, and of SR 599 from Castor east 16 km;
- Widening and paving of SR 595 (Coal Trail) from Red Deer to Delburne and Highway 21.

The resource road program provided funding for:

- Grade widening and paving of SR 855 from Halkirk north to the Forestburg coal deposit;
- Grading of the Red Deer River access to the Forestry Trunk Road southwest of Sundre, of the Sunchild Road north of Highway 11, of SR 870 to the gravel deposits south of Kinsella, of SR 872 south from Coronation, and of SR 884 south of Amisk;
- Oil-bound surfacing of the Bodo-Hayter Road;
- Paving of SR 591 from the forestry reserve boundary to the junction of Highway 22 at Caroline.

The Westaskiwin Airport was lengthened and widened. Wet conditions were encountered and lime was added to the saturated subgrade material to obtain a base suitable for paving.

An operator training project, founded by the department and directed by Keyano College, resulted in the grading of 7 km of SR 792 west of Ponoka and the training of 43 heavy equipment operators.

Contact with several hamlets, towns and villages in the region was maintained through the department's Streets Assistance Program, which provides funds for the improvement of local thoroughfares.

Regional staff were involved in meetings with many communities to develop plans for future highway improvements. Transportation studies were initiated with Innisfail, Ponoka, and Sylvan Lake.

NO. 4
NORTH EAST REGION
H. HETU, Regional Director

During the reporting period, a total of more than $73 million was expended in the North East Region; most scheduled construction projects reached completion. Heavy snowfalls, rain and storms during the winter demanded maximum use of equipment, and of human and financial resources. However, favorable winter driving conditions were maintained on all highways.

Major primary highway construction was undertaken on Highway 41 between Highways 14 and 16: 17 km of soil cement base course and asphaltic concrete pavement were completed, with the balance of the 40 km project scheduled for completion during the 1982 construction season. Base course construction was completed on Highway 55 from the junction of Highway 28 to the Saskatchewan border, as well as on a section of Highway 36 from west of Foisy to St. Brides. A pavement overlay was completed on Highway 28 from west of Vilna to west of Ashmont.

Major reconstruction of highways was also carried out through the communities of St. Paul, Bonnyville and Fort McMurray.

Over 50 projects of various sizes were carried out under the secondary roads (SR) program. Major projects included the paving of SR 855 from north of Vegreville to the junction of Highway 45, the commencement of grading of SR 857 south of the Shandro Bridge to Highway 28, and the grading of SR 657.

Assistance was provided by counties and municipalities under the resource roads program to improve secondary and local roads accommodating industrial and local traffic. Projects included grading of a local road north of Clandonald, grading of SR 619 from the junction of Highway 41 to

SR 881, base course construction of SR 663 from west of Hylo to west of Caslan, and grading of SR 867.

Other major road systems were developed under special programs. More than 15 km of grading was undertaken on Highway 963 north of Mildred Lake. Highway 55 was graded and based from the junction of Highway 28 to the junction of Highway 92 north of Ardmore, and grading was commenced from west of Iron River to west of SR 881. As well, grading of SR 660 from Franchere Bay to the junction of SR 890 was commenced.

Road construction included improving access to Indian Reserves and Metis Settlements. School bus routes and access roads to recreational lakes were also improved.

A community airport was constructed in Viking. Planning commenced on the Bonnyville and Elk Point community airports.

NO. 5
NORTH WEST REGION
J.O. NEWNHAM, Regional Director

A large construction program was undertaken in the North West Region during the 1981-82 season, expenditures for all programs amounting to some $166 million. Wet weather was experienced in the eastern section during early summer, but this was offset by a dry and late fall. The Edson-Whitecourt area in the western section experienced abnormally dry conditions throughout the construction period, allowing completion of all programs well within schedule. Those same conditions, however, did precipitate dust problems that are seldom encountered in the region's western section. Surface applications of calcium chloride were employed to remedy the situation.

In the spring of 1981, the Economic Stabilization Program funded a significant increase in improvement district, county and municipal road construction, and provided needed work for idle oilfield equipment. A Winter Works Program of clearing and gravel stockpiling extended work for construction equipment and provided work for the trucking industry.

Maintenance operations ran smoothly, although the generally dry summer season was followed by heavy and frequent snowfalls, placing heavy demands on winter maintenance operations.

Night patrols and winter maintenance activities were continued in the heavy commuter areas of the region. These services were well received by system users and the RCMP Highway Patrol, and again played a role in the Operation 16 Program on the Yellowhead Route.

Projects of note undertaken during the reporting period included:

- Completion of the six-lane divided section of Highway 2 from north of Leduc to north of Nisku, including the Edmonton International Airport and Nisku overpass structures; and of the six-lane urban section of Highway 16 from the Edmonton city limits to east of 17th Street, including the railroad overpass structures.
- Completion of the four-lane divided section of Highway 43 from south of Onoway to west of Gunn, including the CN Rail overpass structure; and commencement of the future four-lane facility of Highway 16X from north of Stony Plain to Edmonton.
- Completion of an experimental sulphur/asphalt paving program from the Bremner interchange to the east limit of Elk Island Park on the westbound lanes of Highway 16.
- Completion of grading and gravelling on Highway 32 to primary highway standards, between Highway 43 near Whitecourt and Swan Hills.
- Construction of the access to the new Carson Lake Provincial Park.
- Paving of Highway 40 from Grande Cache to the Smoky River and from the Berland River to east of the Muskeg River.
- The start on upgrading of Highway 47 from Edson to the Coal Branch. Eleven kilometres of grading and base course were completed from Erith to Weald.
- Grading of Secondary Road (SR) 627 from SR 779 to SR 770, and paving from SR 770 to the Keephills Plant, the latter being a joint venture with the County of Parkland and TransAlta Utilities.
- Base course surfacing on SR 764 and SR 918 to complete a paved link between Highways 18 and 43; on SR 794 to complete a paved link between Highways 18 and 16X; and on Highway 37 and SR 635 to provide a paved link between Highways 15 and 43.
- Construction of new municipal airports at Drayton Valley and Mayerthorpe, and of overlay of the Edson Airport and its taxiway system.
- Continuation of base course surfacing on Highway 2 north of Athabasca; and on SR 813, which now completes grading to secondary standards between Athabasca and Calling Lake.
- Completion of the new Radway weigh scale site near the junction of Highways 28 and 63.
- Reconstruction of the public road through the Alexis Indian Reserve, in co-ordination with Keyano College's training program for native heavy equipment operators.

NO. 6
PEACE REGION
R.G. SHARP, Regional Director

During the reporting period, the Peace Region experienced excellent construction weather. Regional expenditures for construction and maintenance totalled more than $121 million. A particular focus of maintenance activity was to ensure satisfactory upkeep of the region's gravelled roads and to prevent dust problems during dry weather. Heavy snowfalls during the winter called for a major maintenance effort to keep roads in a safe, dry condition.

Highlights over the year in the region included the grading or regrading of approximately 900 km of road under the secondary, local, and forestry road programs and under the

program to new lands. As well, an extensive regravelling program was carried out covering approximately 6 000 km. Eighty-six kilometres of secondary road within the region were asphalt-surfaced.

Liaison continued with municipal and improvement district councils.

Particular accomplishments in the Peace Region transportation system included these items:

- Earthmoving on the last section of Highway 67, from the Wabasca River to north of Senex Creek, proceeded for most of the winter over muskeg-type terrain.
- Favourable progress was made on construction of the West Peace Hill on Highway 2 at Peace River. Approach fills were constructed for the two railway overpass structures and the interchange structure. Construction was also underway on these three structures during the 1981-82 fiscal year.
- The Isoegun River Hill project on Highway 43 was completed. Climbing lanes are now in place to assist the travelling public and eliminate a potential hazard.
- Funding from the Economic Stabilization Program, in addition to regular grants, increased the number of kilometres constructed in the secondary and local road systems. Particularly dry conditions permitted the economical construction of many kilometres of road in areas that would be difficult to construct during normal years.
- Close working relationships were maintained by district personnel with local governments and improvement district councils to further the benefits accruing from good weather and increased funding.

Schedule RT 1

CONSTRUCTION OF AIRPORT FACILITIES

Elements D2100 and D2200
Expenditures for the year ended March 31, 1982

Construction of Provincial Airport Facilities
Element D2100

Airport Location	Type of Work	
Calgary AFS Base	Engineering, construction of new water bomber base	$ 644,568
Cooking Lake	Construction of seaplane docks	81,024
Edson	Paving, runway drainage	725,043
Grande Cache	Lighting	5
Lac La Biche	Upgrading and expansion of development area	153,658
Lloydminster	Engineering, construction of airport	108,012
Lloydminster (Phase II)	Grading of developed area	186,581
Lloydminster	Lighting	26,304
Manning	Engineering, grading, base course	1,849,546
Swan Hills	Lighting	37,233
Miscellaneous		813
		$3,812,787

Construction of Community Airport Facilities
Element D2200

Andrew/Smoky Lake	Engineering	$ 14,968
Bonnyville	Engineering	4,714
Claresholm	Seal coat runway	106,591
Drayton Valley	Paving	32,935
Drayton Valley	Lighting	14,630
Eaglesham	Engineering	3,248
Elk Point	Engineering	10,130
Forestburg	Grading	44,991
Hanna	Engineering, runway extension and overlay	160,851
Hanna	Lighting	7,201
High Prairie	Engineering, drainage and pavement overlay	509,455
Innisfail	Repair seal coat	80,663
Innisfail	Lighting	43,023
Killam/Sedgewick	Engineering, grading, base course	898,473
Mayerthorpe	Engineering, paving	313,945
Mayerthorpe	Lighting	22,712
Olds/Didsbury	Engineering, grading	439,608
Provost	Engineering	2,300
Red Deer	Engineering	22,199
Valleyview	Upgrading access road, clearing right-of-way	48,701
Vauxhall	Engineering, grading	248,993
Viking	Engineering, paving	557,888
Viking	Lighting	18,347
Vulcan	Engineering, grading, base and paving	808,484
Vulcan	Lighting	9,430
Warner	Oiling runway	48,647
Westlock	Engineering	6,258
Wetaskiwin	Grading	506,717
Wetaskiwin	Paving	797,785
Wetaskiwin	Lighting	46,749
Miscellaneous		23,192
		$5,853,828

Schedule RT 2

IMPROVEMENT DISTRICT AND FORESTRY ROADS

Appropriation 1555, Elements B6100, B3500 and B3200
Expenditures for the year ended March 31, 1982

Improvement District	Trust Funds (Appr. 1555)	Maintenance (Ele. B6100)	Construction (Ele. B3500)	Forestry Roads (Ele. B3200)
1	$ 2,495,137	$ 535,661	$ 589,440	$ —
6	167,835	387,892	203,961	134,124
7	41,250	257,161	664,678	—
8	414,310	1,018,180	220,157	106,550
10	2,032,259	1,120,934	1,952,379	825,361
14	1,517,097	2,901,106	4,910,951	295,355
15	1,086,571	707,652	1,858,203	—
16	1,605,073	862,074	2,636,891	725,585
17	1,475,153	1,672,222	12,112,382	322,863
18	1,943,709	1,733,338	6,019,202	376,321
19	267,411	423,283	2,268,980	—
20	279,072	558,338	2,853,782	—
21	277,705	549,425	3,161,832	—
22	446,104	764,713	3,299,294	136,936
23	625,727	578,555	2,221,273	302,996
	14,674,413	14,070,534	44,973,405	3,226,091
		INDIAN RESERVES		
2	—	63,645	—	—
4	—	200,483	—	—
6	—	61,409	—	—
7	—	16,367	—	—
9	—	43,948	—	—
12	—	13,695	—	—
15	—	38,570	—	—
	—	438,117	—	—
	$14,674,413	$14,508,651	$44,973,405	$3,226,091

Schedule RT 3

GRANTS TO COUNTIES AND MUNICIPAL DISTRICTS

Element B4200

Expenditures for the year ended March 31, 1982

Counties	
Grande Prairie No. 1	$ 1,672,266
Vulcan No. 2	726,213
Ponoka No. 3	806,567
Newell No. 4	1,117,943
Warner No. 5	642,918
Stettler No. 6	803,581
Thorhild No. 7	640,437
Forty Mile No. 8	851,047
Beaver No. 9	542,167
Wetaskiwin No. 10	777,528
Barrhead No. 11	920,214
Athabasca No. 12	1,046,606
Smoky Lake No. 13	592,655
Lacombe No. 14	507,247
Wheatland No. 16	637,147
Mountain View No. 17	580,980
Paintearth No. 18	436,341
St. Paul No. 19	887,524
Strathcona No. 20	406,518
Two Hills No. 21	593,345
Camrose No. 22	729,262
Red Deer No. 23	790,266
Vermilion River No. 24	1,269,182
Leduc No. 25	672,555
Lethbridge No. 26	744,883
Minburn No. 27	643,003
Lac Ste. Anne No. 28	843,368
Flagstaff No. 29	646,263
Lamont No. 30	468,742
Parkland No. 31	930,949
Municipal Districts	
Cardston No. 6	414,258
Pincher Creek No. 9	294,452
Taber No. 14	674,761
Willow Creek No. 26	542,504
Foothills No. 31	499,608
Acadia No. 34	353,137
Rocky View No. 44	928,169
Starland No. 47	566,786
Kneehill No. 48	618,133
Provost No. 52	642,804
Wainwright No. 61	741,274
Bonnyville No. 87	666,662
Sturgeon No. 90	629,532
Westlock No. 92	1,091,131
Smoky River No. 130	763,187
Spirit River No. 133	321,025
Peace No. 135	219,067
Fairview No. 136	325,464
Municipality of Crowsnest Pass	150,000
Special Areas — Economic Stabilization Program	600,000
	$33,969,671

Schedule RT 4

TOWN AND VILLAGE STREETS ASSISTANCE PROGRAM

Element B4400

Expenditures for the year ended March 31, 1982

Town or Village	
Alix	$ 8,008
Alliance	43,680
Andrew	16,760
Arrowwood	25,880
Barnwell	51,720
Barons	38,591
Barrhead	20,311
Bassano	94,000
Bawlf	47,880
Beaumont	158,640
Beiseker	9,300
Big Valley	50,640
Birchcliff	12,880
Bittern Lake	38,400
Blairmore	14,022
Bonnyville	11,672
Boyle	66,960
Carbon	57,180
Carbon (Special)	60,000
Chauvin	8,230
Clive	36,522
Cluny	36,300
Coalhurst	78,060
Coalhurst (Special)	115,087
Consort	84,102
Cremona	50,040
Crossfield	14,107
Daysland	68,700
Derwent	38,820
Devon	250,140
Dewberry	5,403
Delia	18,207
Donnelly	35,097
Drayton Valley (Special)	1,225,000
Duchess	34,299
Eckville	79,680
Elnora	40,323
Empress	5,000
Evansburg	24,640
Falher	3,011
Ferintosh	17,733
Gadsby	30,060
Galahad	39,530
Glenwood	45,060
Grandview	11,800
Granum	55,440
Grimshaw	147,000
Half Moon Bay	5,816
Hanna	10,136
Hardisty	70,260
Heisler	15,500
Hillspring	41,520
Hinton	511,080
Hughenden	45,431
Hussar	41,460
Innisfree	46,020
Kinuso	13,599
Lakeview	4,600
Lavoy	50,900
Leduc	761,460
Longview	44,760
Milk River	75,000
Mirror	10,951
Morinville	305,040
Morrin	87,600
Munson	37,500
Munson (Special)	125,797
Myrnam	17,877
Nanton	34,186
New Norway	3,875
New Sarepta	54,600
Oyen	31,468
Paradise Valley	3,242
Peace River	375,240
Pelican Narrows	11,500
Plamondon	40,202
Ponoka	130,830
Poplar Bay	11,320
Rochon Sands	2,022
Rockyford	35,763
Rosalind	41,160
Seba Beach	1,722
Silver Beach	7,787
Smoky Lake	97,260
Spruce Grove	610,386
Stavely	56,739
Sundance	10,840
Taber	248,458
Tofield	112,140
Val Quentin	36,300
Val Quentin (Special)	36,300
Vilna	52,320
Warner	58,080
Warspite	35,520
West Cove	1,612
Wembley	71,900
Willingdon	5,898
Yellowstone	10,832
Youngstown	45,736
	$8,021,460

Schedule RT 5

ENGINEERING SUPPORT PROGRAM

Element B4100

Expenditures for the year ended March 31, 1982

Counties	
Grande Prairie No. 1	$ 9,079
Vulcan No. 2	14,581
Ponoka No. 3	10,175
Newell No. 4	14,544
Warner No. 5	8,085
Stettler No. 6	16,114
Thorhild No. 7	11,686
Forty Mile No. 8	20,682
Beaver No. 9	12,000
Wetaskiwin No. 10	12,000
Barrhead No. 11	12,641
Athabasca No. 12	19,885
Smoky Lake No. 13	8,714
Lacombe No. 14	11,594
Wheatland No. 16	11,000
Mountain View No. 17	13,000
Paintearth No. 18	14,987
St. Paul No. 19	15,562
Strathcona No. 20	4
Two Hills No. 21	11,000
Camrose No. 22	14,000
Red Deer No. 23	16,206
Vermilion River No. 24	18,000
Leduc No. 25	14,569
Lethbridge No. 26	28,406
Minburn No. 27	11,000
Lac Ste. Anne No. 28	11,574
Flagstaff No. 29	277
Lamont No. 30	10,000
Parkland No. 31	19,840
Municipal Districts	
Cardston No. 6	13,479
Pincher Creek No. 9	8,274
Taber No. 14	23,120
Willow Creek No. 26	12,339
Foothills No. 31	13,000
Acadia No. 34	4,312
Rocky View No. 44	18,000
Starland No. 47	9,144
Kneehill No. 48	11,786
Provost No. 52	3,923
Wainwright No. 61	10,000
Bonnyville No. 87	12,000
Sturgeon No. 90	14,226
Westlock No. 92	19,403
Smoky River No. 130	13,755
Spirit River No. 133	10,893
Peace No. 135	4,343
Fairview No. 136	4,880
Special Areas	39,924
	$638,006

Schedule RT 6

MAINTENANCE AND OPERATION OF FORESTRY AIRSTRIPS

Element D3200

Expenditures for the year ended March 31, 1982

Airstrip	
Agnes Lake	$ 622
Basnett	4,216
Berland Tower	635
Birch Mountain Tower	481
Bison Lake Tower	1,041
Bitumount	648
Cabin Creek	539
Cadotte	3,344
Calling Lake	1,705
Chipewyan Lake	949
Christina Basin	553
Clearwater	312
Conklin	570
Cowley	3,968
Cowpar	1,072
Doig Tower	1,602
Edra	621
Embarras	1,488
Entrance	485
Fox Creek	13,024
Gift Lake	309
Goose River	904
Gordon Lake	585
Graham Lake	5,897
Grande Tower	583
Grist Lake	1,242
Hotchkiss	2,848
Janvier	5,136
Jean Lakes	1,446
Johnson Lake Tower	212
Kakwa Tower	1,059
Lambert Tower	4,467
Manning	2,449
Muskeg Mountain Tower	1,050
Notikewin	1,841
Otter Lake	2,114
Panny	2,608
Ram Falls	1,538
Richardson Tower	4,490
Round Hill Tower	346
Salteaux	1,041
Sherman Meadows	656
Shunda	2,803
Sundre	1,087
Talbot Lake	1,754
Teepee Lake	1,711
Thunder Lake	166
Trout Mountain	974
Wabasca	5,267
Wadlin Tower	24,900
Wild Hay	166
Wolf Lake	332
Worsley	737
General	67,905
	$188,498

Schedule RT 7

MAINTENANCE OF PRIMARY HIGHWAYS AND BRIDGES

Elements B5100, B5200 and B6200, by Regions and Districts
Expenditures for the year ended March 31, 1982

Region	District	Primary Highways (Ele. B5100)	Bridges on Primary Highways (Ele. B5200)	Bridges on Rural-Local Roads (Ele. B6200)
1	1	$ 1,904,882	$ 32,848	$ 35,263
	2	3,839,732	263,867	703,155
2	3	3,041,358	248,427	167,588
	4	6,093,485	596,973	291,100
3	5	3,014,581	603	10,745
	6	4,537,962	511,894	115,991
4	10	3,837,927	132,186	54,017
	11	3,513,400	838,534	78,131
5	7	4,752,254	994,877	126,298
	8	3,467,018	286,124	73,097
	9	2,718,108	496,596	117,856
6	12	2,382,310	266,676	335,054
	13	2,674,236	124,315	218,077
	14	2,163,691	1,125,696	31,234
	15	2,697,764	113,953	4,719
Head Office		373,263	270,623	28,593
		$51,011,971	$6,304,192	$2,390,918

Schedule RT 8

REGIONAL ADMINISTRATION

Element B1100
Expenditures for the year ended March 31, 1982

Region	District		Region	District	
1 Regional Office		$ 538,306	5 Regional Office		532,861
1	1	312,187	5	7	472,939
1	2	340,714	5	8	416,945
2 Regional Office		699,084	5	9	376,464
2	3	271,888	6 Regional Office		455,059
2	4	383,878	6	12	272,641
3 Regional Office		418,919	6	13	383,169
3	5	293,704	6	14	366,469
3	6	339,598	6	15	295,847
4 Regional Office		468,232	Head Office, Edmonton		1,791,910
4	10	344,214			
4	11	369,332			$10,144,360

Schedule RT 9

CONSTRUCTION OF CAMPSITES AND REST AREAS

Element B2300

Expenditures for the year ended March 31, 1982

By District

1	$ 62,024
2	20,319
3	7,950
4	22,916
5	7,116
6	123,773
7	56,082
8	99,164
9	21,857
10	31,531
11	172,218
12	107,165
13	10,669
14	114,318
15	7,803
	$864,905

By Site

Andrew	$ 2,381
Bassano	20,159
Birch Bay	1,052
Ross Hill	2,348
Bowden	100,000
Boyer River	2,593
Bretona	27,426
Buck Lake	13,099
Carmangay	120
Carrot Creek	661
Chickadee	1,209
Chisholm	49
Cremona	7,977
Demmitt	5,947
Dogpound	2,568
Dunmore	18,532
Dunvegan	6,128
Edson Rest Area	88,322
Emestive Lake	10,472
Fallen Timber	3,724
Flatbush	3,777
Fork Lake	30,218
Fort Normandeau	7,509
Fort Vermilion	1,538
Franchere Bay	36,173
Freedom	3,524
Grimshaw	3,280
Groat Creek	401
Gunn	7,441
Hanging Stone	20,715
Hanmore Lake	19,640
Hazeldine	5,097
High Level	3,672
Highwood	8,648
Holmes Crossing	3,448
Hornbeck	4,919
Hotchkiss	20,295
Hwy. 41 Truck Turn Out	19,205
Island Lake	13
Jarvie	3,168
Jerry Creek	51,187
Little Smoky	5,319
Manatokay	10,930
Maskuta Creek	661
Mcleod Valley	661
Meeting Creek	4,768
Milk River	4,760
Miscellaneous Campsites	23,734
Myrnam Bridge	6,714
Narrows	2,112
North Buck Lake	24,246
Owl River	8,525
Peace River	62,722
River Course	2,345
Rochester	3,501
Roundcroft	782
Sandy Lake	21,460
Smoky Lake	11,299
Suffield	4,128
Sunset Lake	4,583
Trapper Lea's	4,390
Traverse Dam	15,426
Twin Lakes	21,892
Two Hills	5,200
Viking	5,200
Watino	34,641
Webster	4,723
Whitecourt	1,548
	$864,905

PROGRAM PLANNING DIVISION

L.B. ROOT
Assistant Deputy Minister

The Program Planning Division continued to consolidate the long-range strategic planning functions of the department. Departmental objectives were reviewed and a five-year program was initiated to meet these objectives.

Considerable work was carried out by Urban Transportation to review the transportation needs of the cities in the province, and to develop an approach which could provide funding assistance based on these needs.

Ongoing work will be required by the division to refine the various strategies required to maintain and upgrade the extensive network of transportation facilities within the province in response to the development priorities of the Alberta government.

Specific reports on the activities of the Program Development Branch, Urban Transportation, and the Systems Planning Branch appear on the pages which follow.

PROGRAM DEVELOPMENT BRANCH

C.D. BURTON
Director

The major responsibilities of the Program Development Branch involve the development and maintenance of the department's immediate and long-term construction programs. Since its inception in September 1980, the branch has been assigned responsibility for the programming and advance scheduling of the following activities:

— Primary highways program
— Pavement rehabilitation program
— Kananaskis Country progam
— Secondary roads program
— Ring roads and inter-city connections
— Approach roads program
— Park roads program
— Special projects program
— Highways 1A & 16 four-lane (twinning) program
— Special programs (e.g., Cold Lake, Fort McMurray)

Also, the branch is responsible for the advance program co-ordination of the primary and main bridge program, and the weigh scale program.

To ensure delivery of the various programs, within established budgets, the branch co-ordinates interdepartmental engineering activities, and liaises with outside agencies on a continuing basis.

URBAN TRANSPORTATION

M.M. DUNCAN
Administrator

During the reporting period Urban Transportation was responsible for allocating over $150 million to Alberta's urban communities under the Urban Transportation Assistance Program Package. The current package has nine component programs, designed to provide assistance to cities and major urban areas for capital and operating costs incurred in the development and operation of effective roadway and public transit systems.

A total of 12 cities, and the County of Strathcona (Sherwood Park), received urban transportation assistance as summarized in the following table:

Calgary	$ 58,401,885
Camrose	2,654,673
Drumheller	3,001,367
Edmonton	58,436,842
Fort McMurray	2,310,079
Grande Prairie	1,915,840
Lethbridge	4,246,396
Lloydminster	738,758
Medicine Hat	5,562,406
Red Deer	3,373,605
St. Albert	9,586,035
Wetaskiwin	1,846,367
Sherwood Park	674,182
	$152,748,435

In addition, special roadway and transit needs studies for each city and Sherwood Park, totalling $534,616, were funded from the $699,024 allocated to projects of multijurisdictional concern under Research and Development.

Urban Transportation is also responsible for the development of plans and policies which recognize the needs of urban communities and ensure the most effective use of funds provided under the provincial assistance program. This planning function was emphasized by the completion, in the fall of 1981, of a comprehensive review of the roadway and transit needs in Alberta cities. This review, which was conducted co-operatively by staff of Urban Transportation and of the cities, greatly assisted in monitoring the efficiency and effectiveness of Urban Transportation programs toward meeting the transportation requirements of the cities.

Details of grants made during the 1981-82 fiscal year for each of the nine programs are outlined in the following sections.

1. PUBLIC TRANSIT CAPITAL ASSISTANCE PROGRAM

Calgary	$ 20,000,000
Camrose	85,000
Drumheller	50,000
Edmonton	20,000,000
Fort McMurray	235,000
Grande Prairie	185,000
Lethbridge	480,000
Lloydminster	55,000
Medicine Hat	327,000
Red Deer	352,000
St. Albert	415,000
Wetaskiwin	65,000
Sherwood Park	415,000
	$ 42,664,000

Funds disbursed under this program assist cities in developing effective public transit services. In the reporting period, projects approved for funding included design and construction of transit facilities, including LRT, and purchases of transit vehicles and other equipment.

2. ARTERIAL ROADWAY CAPITAL ASSISTANCE PROGRAM

Calgary	$ 12,000,000
Camrose	903,800
Drumheller	387,600
Edmonton	12,000,000
Fort McMurray	1,570,000
Grande Prairie	1,340,000
Lethbridge	2,940,000
Lloydminster	595,700
Medicine Hat	1,950,000
Red Deer	2,230,000
St. Albert	1,800,000
Wetaskiwin	712,900
	$ 38,430,000

Eligible projects under this program include functional planning, design, construction and land acquisition for major arterial roadways that are extensions of, or support, the primary highway system, and which constitute part of a city's cost-shareable network with the province.

3. MAJOR CONTINUOUS CORRIDORS PROGRAM

Calgary (Deerfoot Trail)	$ 16,109,102
Drumheller (Highway 9)	2,500,000
Edmonton (Yellowhead Trail)	15,700,000
Medicine Hat (Trans-Canada Highway)	2,692,000
St. Albert (Highway 2)	6,950,000
Wetaskiwin (Highway 2A)	946,795
	$ 44,897,897

This program promotes the development of one high-standard major continuous roadway through a city. For a roadway project to be eligible, the route must be (in order of priority): the urban portion of a primary provincial highway, or a route which connects primary provincial highways, or a part of a city's connection to primary provincial highways.

4. RAILWAY/HIGHWAY GRADE SEPARATION STRUCTURE ASSISTANCE PROGRAM

Calgary	$ 2,248,000
Camrose	1,561,159
Edmonton	3,690,841
	$ 7,500,000

Funds provided from this program assist in the design and construction of railway/highway separation structures that promote efficient traffic operations and improved safety.

5. TRANSPORTATION SYSTEMS MANAGEMENT PROGRAM

Calgary	$ 1,200,000
Camrose	33,000
Drumheller	19,000
Edmonton	1,200,000
Fort McMurray	79,000
Grande Prairie	56,000
Lethbridge	151,000
Lloydminster	21,000
Medicine Hat	101,000
Red Deer	111,000
St. Albert	83,000
Wetaskiwin	25,000
	$ 3,079,000

This program promotes and financially assists in spot improvements that aid in the implementation of effective and safe transportation systems.

6. URBAN SIGNING PROJECT

Calgary	$ 220,000
Camrose	9,000
Drumheller	5,000
Edmonton	180,000
Fort McMurray	24,000
Grande Prairie	18,000
Lethbridge	41,000
Lloydminster	7,000
Medicine Hat	30,000
Red Deer	35,000
St. Albert	24,000
Wetaskiwin	7,000
	$ 600,000

This project is designed to establish uniformity and systemization of guide signing and clarity of routing in urban areas.

7. RESEARCH AND DEVELOPMENT PROGRAM

Calgary	$ 290,070
Drumheller	1,007
Edmonton	142,156
Fort McMurray	125,131
Grande Prairie	36,916
Lethbridge	5,780
Red Deer	150,960
St. Albert	1,415
Wetaskiwin	22,570
Roadway and transit needs studies	534,616
Other multijurisdictional projects	164,408
	$ 1,475,029

Funds provided under this program assist in conducting research activities aimed at providing more efficient urban transportation. Major projects funded in the reporting period included:

- For Calgary — CATS Model Update, Downtown Parking Study, Transportation of Elderly and Handicapped;
- For Edmonton — Mentally Handicapped Transit Training, Varied Work Hours Promotion, and Highway 16/125 Avenue Corridor Land Use Study;
- Transportation study updates for the medium and smaller cities, such as Fort McMurray and Red Deer, and;
- Multijurisdictional studies, such as those on transit and roadway needs completed in all cities.

8. GRANTS-IN-LIEU OF PUBLIC TRANSIT OPERATING ASSISTANCE PROGRAM

Calgary	$ 5,326,713
Camrose	24,714
Drumheller	12,760
Edmonton	4,690,845
Fort McMurray	276,948
Grande Prairie	227,924
Lethbridge	491,616
Lloydminster	18,058
Medicine Hat	359,406
Red Deer	408,645
St. Albert	280,620
Wetaskiwin	19,102
Sherwood Park	259,182
	$ 12,396,533

This program provides unconditional grants toward reducing or eliminating public transit operating deficits, including contributions to transit services for disabled and senior citizens. Grants during the reporting period were based on $9.00 per capita to urban areas with approved public transit services, and on $2.00 per capita to cities without approved public transit services.

9. PRIMARY HIGHWAY MAINTENANCE PROGRAM

Calgary	$ 1,008,000
Camrose	38,000
Drumheller	26,000
Edmonton	833,000
Grande Prairie	52,000
Lethbridge	137,000
Lloydminster	42,000
Medicine Hat	103,000
Red Deer	86,000
St. Albert	32,000
Wetaskiwin	48,000
	$ 2,405,000

These grants are provided to assist the maintenance of primary provincial highway routes within the cities. During the reporting period, the provincial contribution was $2,650 per lane-mile of eligible roadway.

SYSTEMS PLANNING BRANCH

C.R.G. HALLS
Director

The Systems Planning Branch carries out comprehensive transportation planning and provides analytical services to the department's divisions. These responsibilities include forecasting future transportation needs based on expected social and economic development, and assessing alternative means of meeting these needs.

Traffic volumes and travel characteristics on the provincial highway and secondary road systems are monitored in co-operation with regional staff. This program shows that:

- There are approximately 19 billion vehicle kilometres of travel per year in Alberta.
- Some 9 billion vehicle kilometres of this travel takes place on the primary highway system.
- Traffic volume grew 6.5 per cent from 1980 to 1981.
- Traffic volume in the first few months of 1982, to the end of the current reporting year, showed at least no growth and, in many cases, a decline compared to 1981.
- On average, work and business trips make up about 60 per cent, and social and recreational trips about 40 per cent of the total. On long-distance interprovincial and recreational routes, such as the Trans-Canada, the Yellowhead, and the Edmonton-Calgary highways, social and recreational trips account for as much as 60 per cent of the total.
- The average vehicle occupancy is 1.9 persons, ranging from 2.5 persons per vehicle for social and recreational trips to 1.4 persons per vehicle for work trips. Both are up slightly from previous years, possibly in response to increased fuel prices.

The program of assisting communities with their transportation plans continued. Twelve studies were completed in the first two years of the program. In the 1981-82 fiscal year, studies were completed in Airdrie, Innisfail, the County of Parkland, Peace River, Pincher Creek, Redwater, and the Municipal District of Sturgeon. These studies are used in the transportation chapters of a number of regional and general municipal plans. In some cases, assistance in planning matters is also rendered through the direct liaison of branch staff with regional and other planning agencies.

During the reporting period, the branch represented the department on a number of interdepartmental and intergovernmental committees, in meetings with the private sector, and on referral systems dealing with major resource development issues. This work proves invaluable in understanding the impact of changes in regional and sub-regional development activity upon the existing transportation systems, and forms the basis for evaluating future system requirements.

ALBERTA MOTOR TRANSPORT
BOARD

ALBERTA MOTOR TRANSPORT BOARD

H.H. HENDRICKSON
Chairman

The Alberta Motor Transport Board is a body corporate, as constituted under the Alberta Motor Transport Act. As an autonomous quasi-judicial tribunal, the board deals with intra- and extra-provincial motor carrier and bus matters. The board has delegated authority from the federal government by virtue of The Motor Vehicle Transport Act (Canada). The board presently consists of the following members:

H.H. Hendrickson, B.A.Sc., P.Eng. — Member and Chairman
G.I. Bellingham, CITT — Member, Vice-Chairman, and Director of Operating Authorities Branch
H.K. Walker, M.Eng., P.Eng. — Member, Vice-Chairman, and Director of Motor Transport Branch
A.C. Smythe — Member, and Director of Administration, Research, and Certificate Review Branch
R.N. McGregor — Member
L. Hollinger — Member
J. Rempel — Member
J.R. Soulsby — Member

BOARD INITIATIVES

During the 1981-82 fiscal year, the board met nine times on policy-related items, and formulated several specific policy directions, as follows:

- The board developed a partial amnesty program for 1982. Under this program, applications are considered to amend extra-provincial operating authority certificates to reflect through-movement of goods previously moved by separate grants of authority from Alberta and other jurisdictions. The policy reconfirmed prohibition of "tacking", or joining, separate authorities to extend the geographic scope of operations beyond that granted by Alberta.
- An "ease of entry" policy was initiated that considerably lessens the entry requirement for trucking firms for certain commodities. Such action was seen to stimulate competition, and thereby open potentially new markets for Alberta products and lessen the transport cost of foodstuffs imported into the province.
- Early in 1982, the United States Interstate Commerce Commission imposed a moratorium on Canadian motor carrier applications for operating authority to and from the United States. Through the Canadian Conference of Motor Transport Administrators, the Alberta board, together with other jurisdictions, met with the Canadian Department of External Affairs and the State Department of the United States in an attempt to have this discriminatory moratorium removed.

BOARD ACTIVITIES

The members of the board hold regular informal hearings, and formal public hearings as required, to consider motor carrier and bus applications for operating authority. During the 1981-82 fiscal year, the board held 42 regular informal and 39 formal public hearings, including show cause hearings and two joint hearings with the Saskatchewan Highway Traffic Board.

Board members worked within the Canadian Conference of Motor Transport Administrators (CCMTA) in an effort to bring about national uniformity in regulations and policies for carriers transporting goods and people. Examples of this work include the Canada-wide program for the transportation of disabled people by inter-city bus, and the efforts of CCMTA on behalf of the various truck tariff bureaus to ensure limited exemption to federal legislation on monopolistic practices.

MOTOR TRANSPORT BRANCH

H.K. WALKER
Director

The Motor Transport Branch has operational as well as planning and policy responsibilities. The authority to provide specific programs related to highway weight and dimensions is delegated to the branch through Section 35(1) n-q of the Motor Transport Act. The branch has two sections: Transport Field Operations and Engineering.

TRANSPORT FIELD OPERATIONS SECTION

The Transport Field Operations Section has 25 regional office and vehicle inspection stations located throughout the province. During the reporting period, a new standard design for these stations was approved. A sketch of this design is shown on page 58. Also, the section made improvements to several vehicle inspection stations, as follows:

Acheson: The yard was improved, and a by-pass safety lane added.

Balzac: The yard was upgraded, a safety by-pass lane was added, and new concrete scale approach pads were built.

Burmis: Land for a new scale site was purchased and some preliminary work completed.

Grande Prairie: Grade extension to the yard was completed. A new electronic axle scale was installed, and the yard lighting improved.

Grimshaw: A new site was decided upon, and land purchased.

Hinton: Yard lighting was improved.

Leduc: The yard was improved, a by-pass safety lane added, and the concrete pad at the north end of the scale approach replaced.

Redwater/Radway: The old Redwater site was abandoned and a new site completed near Radway at the junction of Highways 63 and 28.

Vermilion: The yard and its lighting were improved.

Whitecourt: Complete water and sewage systems were installed. The yard was improved, as were the yard lighting and the drainage system. The building was placed on a foundation, and sidewalks added.

To ensure consistent work application standards by field personnel, the in-house training program was expanded. This program ensures that new personnel receive proper induction into administering the Motor Transport Act and Regulations, and that all field personnel receive continued training to upgrade skills and knowledge.

Transport Field Operations initiated 455 investigations, which resulted in 55 carrier disciplinary review actions. Statistics concerning other areas of section activity are shown in Schedule MTB 1 on the opposite page.

ENGINEERING SECTION

The Engineering Section is responsible for developing regulations and policy, and for providing guidance to obtain maximum, efficient and safe movement of goods and people over Alberta highways. During the reporting period, the section issued two major orders that resulted in an increase in the maximum allowed by certain vehicle combinations on Alberta highways. The section also issued 34 road ban orders to protect seasonally weakened roadbeds, and authorized 24,756 oversize transport permits.

The section, in conjunction with the Roads and Transportation Association of Canada, participated in the development of Western Canadian standards on axle spacings and in the Canada-wide adoption of a dimensional sign for oversize transport identification.

The section is working with the trailer manufacturing industry in evaluating a hydraulic forced-steering trailer acceptable for Alberta highways. This concept allows for a 50 per cent increase in payload and, with its steering capability and close tracking ability, the equipment allows for greater ease of handling bridge beams, logs, pipe and other long loads. A photograph of this equipment is shown on page 58.

Location	Vehicl Weigh
Acheson	144,1
Ardrossan	36,8
Balzac	151,8
Calgary	—
Coutts	43,0
Dunmore	46,4
Edmonton (Office)	—
Fort Macleod	—
Grande Prairie (Scale)	24,5
Grimshaw	12,4
Hinton	27,7
Jumpingpound	74,5
Lac La Biche (St. Paul)	—
Leduc	83,7
Lethbridge	—
Morrin	16,0
Red Deer	5,4
Radway	55,4
St. Albert	54,8
Strathmore	2,7
Vermilion	85,7
Whitecourt	58,5
Totals	924,2

*Motor Transport Board
**Reciprocity

Schedule MTB 1

TRANSPORT FIELD OPERATIONS

Location	Vehicles Weighed	Over-Loads	*M.T.B. 12	*M.T.B. 13	*M.T.B 14	Operating Authority Permits	Operating Authority Applications	Trac-tions	*M.T.B. 38 **Recip.	Vehicles Checked	Vehicles Detained	Forest Invoices Log	Forest Invoices Haul	Hours Scale Open	Hours Scale Operating	Total Fees $
Acheson	144,104	490	2,193	18,226	3,449	726	68	36	107	7,929	490	—	11	357	7,159	877,018
Ardrossan	36,861	369	408	629	143	166	49	6	77	3,497	62	—	—	224	2,473	27,395
Balzac	151,873	845	2,482	6,012	1,143	417	—	46	388	20,687	891	—	—	319	5,726	269,968
Calgary	—	—	628	2,441	410	1,008	632	—	—	—	—	—	—	—	—	44,166
Coutts	43,058	336	4,527	1,109	946	2,202	96	928	5	30,719	517	—	—	3,257	6,649.25	239,968
Dunmore	46,438	50	4,770	4,008	2,393	940	154	1	153	12,218	149	—	—	351	6,984	240,320
Edmonton (Office)	—	—	—	—	—	486	420	—	—	—	—	—	—	—	—	—
Fort Macleod	—	—	1,306	533	291	352	—	41	146	4,695	35	—	—	274	3,952.25	55,970
Grande Prairie (Scale)	24,574	73	552	5,287	1,146	232	4	6	127	1,542	106	—	20	189	3,855	206,799
Grimshaw	12,435	255	232	2,991	1,114	311	120	52	16	1,091	382	22	176	248.5	2,250.75	125,882
Hinton	27,758	229	1,257	2,175	659	374	26	4	361	4,829	38	—	107	248.5	4,894	103,970
Jumpingpound	74,592	635	3,147	1,523	359	501	—	93	1,036	19,803	398	—	—	348	5,593	108,408
Lac La Biche (St. Paul)	—	—	84	1,433	319	67	58	—	—	—	—	—	61	—	—	35,907
Leduc	83,725	1,541	857	5,344	1,771	367	—	59	103	4,915	407	—	—	302	4,037.50	363,342
Lethbridge	—	—	90	1,863	643	64	203	44	3	—	—	—	—	—	—	42,289
Morrin	16,026	94	381	1,551	334	99	28	—	95	3,047	22	—	—	219	1,556	45,157
Red Deer	5,438	8	283	7,280	1,068	153	60	—	2	44	3	—	3	234	2,682.40	183,923
Radway	55,437	903	306	3,292	539	177	41	51	32	6,488	101	100	—	331	5,975.25	123,437
St. Albert	54,822	515	508	1,066	432	96	24	—	12	3,743	78	48	—	291	5,068.50	54,598
Strathmore	2,781	—	34	55	8	9	—	—	3	268	—	—	—	23	265	6,448
Vermilion	85,773	247	2,885	3,470	1,424	545	57	16	181	5,602	156	—	—	334	6,176	159,170
Whitecourt	58,598	2,164	185	3,144	848	115	24	19	22	3,796	78	—	4	294	3,871.75	140,210
Totals	924,293	8,754	27,115	73,432	19,439	9,407	2,064	1,402	2,869	134,913	3,913	170	382	7,844	79,168.65	3,454,345

*Motor Transport Board
**Reciprocity

THE NEW STANDARD DESIGN for vehicle inspection stations, approved by the Alberta Motor Transport Board during the 1981-82 fiscal year.

THE NEW TRAILER EQUIPMENT, with hydraulic forced-steering, being evaluated for use on Alberta highways. The equipment allows for a 50 per cent increase in payload over existing trailers.

OPERATING AUTHORITIES BRANCH

G.I. BELLINGHAM
Director

The Operating Authorities Branch is responsible for the prorationing of licence fees, insurance documentation, intra-provincial operating authorities, and documentation relating to extra-provincial truck and bus operating authority applications appearing before the Alberta Motor Transport Board for adjudication.

During the reporting period, the branch revised its renewal requirement for intra- and extra-provincial operating authority certificates for motor carriers. These certificates are now conditionally issued for a three-year period. This practice has greatly reduced the burden on carriers, who previously had to renew certificates annually.

Through the branch, the province negotiates and maintains reciprocal licensing arrangements for commercial motor vehicles on an interprovincial and international basis. Alberta now participates in three commercial vehicle licensing reciprocity agreements in Canada and the United States. The three plans and their respective memberships are:

International Registration Plan (IRP)

Members, in addition to Alberta, include:

Arizona	Louisiana	Oregon
Alabama	Minnesota	South Dakota
Arkansas	Mississippi	Tennessee
Colorado	Missouri	Texas
Idaho	Montana	Utah
Illinois	Nebraska	Virginia
Iowa	North Carolina	Wisconsin
Kansas	North Dakota	Wyoming
Kentucky	Oklahoma	

Note: Alberta signed a bilateral agreement with the Commonwealth of Pennsylvania which encompassed all the provisions of the International Registration Plan.

Uniform Vehicle Registration Prorution and Reciprocity Agreement (Western Compact)

Members, in addition to Alberta, include:

*Alaska	Iowa	*New Mexico
Arizona	Kansas	North Dakota
*British Columbia	Minnesota	Oregon
*California	Missouri	South Dakota
Colorado	Montana	Utah
Idaho	Nebraska	*Washington
Illinois	*Nevada	

*Members of Uniform Agreement only.

Canadian Agreement on Vehicle Registration (CAVR)

Members are:

British Columbia	Manitoba	New Brunswick
Alberta	Ontario	Nova Scotia
Saskatchewan	Quebec	Newfoundland

Note: Quebec, Nova Scotia and Newfoundland implemented prorationing of licence fees during the 1981-82 fiscal year.

Details of permits and certificates issued and revenues received on behalf of the board are shown in Schedules MTB 2 and MTB 3 on this and the next page.

Schedule MTB 2

PERMITS ISSUED, REVENUES RECEIVED

Type of Permit	Issued/ Approved #	Revenue
Liveryman's Licences	248	$ 2,480
Drive-Yourself Certificates	273	$ 2,730
Non-Resident Reciprocity Permits	2,850	Nil fee
Section 20 Permits (Special Purpose)	107	Nil fee
Triple-Trailer Permits	16	Nil fee
MTB 18 (Bus) Private Bus Permits	902	Nil fee
MTB 19 (Bus) Special or Single-Trip Permits	191	Nil fee
MTB 82 (School Bus) Single-Trip Permits	473	Nil fee
MTB 85 (Bus) Equipment Exemption Permits	348	Nil fee

COMMERCIAL LICENSING RECIPROCITY

	#	Revenue
Vehicles prorated	34,563	$2,577,710*
Cab cards issued	15,880	
Backing plates	4,860	$ 14,579

*This figure includes licence fees from non-resident carriers only. Licence fees from Alberta residents are paid directly to Motor Vehicles Division, Alberta Solicitor General. Prorationed licence fees from Alberta residents for the 1981-82 fiscal year totalled $3,372,879.

Schedule MTB 3

OPERATING AUTHORITY CERTIFICATES

1981 - 1982

INTRA-PROVINCIAL OPERATING AUTHORITY

Truck		Bus	
New Applications	2,854	Class A Charter Service	25
Amendments	419	Class B Charter Service	52
Transfers	353	Class C Charter Service	80
Cancellations	1,399	Intra-Provincial Public Bus Route Certificates	165
Reinstatements	27		
Renewals	11,013		

EXTRA-PROVINCIAL OPERATING AUTHORITY

	Approved	Deferred	Declined	Tabled	Withdrawn	Cancelled
New Applications						
Motor Carrier	276	54	18	2	1	—
Bus	12	4	—	2	—	—
Amendments						
Motor Carrier	498	63	22	8	—	—
Bus	—	—	1	2	—	—
Transfers						
Motor Carrier	63	—	—	6	—	—
Bus	1	—	—	—	—	—
Cancellations						
Motor Carrier	25	—	—	—	—	—
Bus	2	—	—	—	—	—
Temporary Authorities						
Motor Carrier	624	—	27	7	—	2
Bus	5	—	2	—	—	—
Reinstatements						
Bus	4	—	—	—	—	—
Private Carriage Identification Cards	314	—	1	—	—	2

Also, 21 increases in public bus tariffs were approved, one was declined, and one tabled, and six changes in schedules were approved.

ADMINISTRATION, RESEARCH, & CERTIFICATE REVIEW BRANCH

A.C. SMYTHE
Director

The Administration, Research, and Certificate Review Branch was established during the reporting period to provide the board with:

- ☐ general administrative support,
- ☐ research into the impact of policy and regulatory change, and
- ☐ the systematic review of all extra-provincial operating authority files to ensure correct wording of certificates.

During the reporting period, the branch provided:

- Formal liaison between the Alberta Motor Transport Board and the Alberta Highway Patrol Division, Alberta Solicitor General;
- A decision management system, adopted by the board, to improve communication between the board and the public in order to provide input for regulatory change;
- A policy procedure manual to supply consistency in the application of legislation and board policy by highway vehicle inspection station personnel;
- Implementation of a TWX communications system with terminals in all regional offices and vehicle inspection stations to provide for computer access and instant office/field communication.

Emphasis was placed during the year on reviewing and standardizing the wording used in certificates. In total, 245 reviews were started (Phase I – 184; Phase II – 61); and 180 reviews were completed and sent to the board (Phase I – 117; Phase II – 63).